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铁线莲属研究随记(Ⅱ)

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Notes on the genus *Clematis* (Ranunculaceae) (Ⅱ)

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Abstract　(1) The systematic positions of *Clematis potaninii* Maxim., *C*. *heynei* Rau, *C*. *trichotoma* Nakai, *C*. *apiculata* Hook. f. & Thoms, *C*. *theobromina* Dunn, *C*. *sigensis* Engler, *C*. *hedysarifolia* DC., and *C*. *dissecta* Baker, and the specific status of *C*. *trifida* Hook, *C*. *pimpinellifolia* Hook., *C*. *oligophylla* Hook., and *Clematopsis lineariloba* Hutch. are discussed; (2) New classifications for *Clematis parviloba* Gardn. & Champ., *C*. *puberula* Hook. f. & Thoms., and sect. *Naraveliopsis* Hand.-Mazz. are provided; (3) *Clematis* subsect. *Potaninianae* M. Johnson, *C*. *heynei* M. Johnson, *C*. *petelotii* Gagnep. and some other names are reduced to synonymy; (4) Two subsections, 4 series, 4 species, and 4 varieties are described as new; (5) Four new ranks and 4 new combinations are made.

Key words　*Clematis*; Taxonomical problems; New taxa; New ranks; New combinations

摘要　(1) 对铁线链属以下诸种 *Clematis potaninii* Maxim., *C*. *heynei* Rau, *C*. *trichotoma* Nakai, *C*. *apiculata* Hook. f. & Thoms., *C*. *theobromina* Dunn, *C*. *hedysarifolia* DC. 和 *C*. *dissecta* Baker 的系统位置进行了讨论,提出了新见解;(2) 过去一些作者或不承认 *C*. *trifida* Hook., *C*. *pimpinellifolia* Hook., *C*. *oligophylla* Hook.,和 *Clematopsis lineariloba* Hutch 诸种,或进行降级,作为种下分类群处理。本文作者在研究了有关标本之后认为上述 4 种有明显区别特征,均应成立;(3) 对裂叶铁线莲 *Clematis parviloba* Gardn. & Champ. 的 5 个变种,短毛铁线莲 *C*. *puberula* Hook. f. & Thoms. 的 4 个变种和丝铁线莲组 sect. *Naraveliopsis* Hand.-Mazz. 的 20 个种做出新的分类安排;(4) 归并了 subsect. *Potanimianae* W. T. Wang, *C*. *heynei* M. Johnson, *C*. *petelotii* Gagnep. 以及其他几个学名;(5) 描述了 2 新亚组,4 新系,3 新种和 3 新变种;(6) 做出了 3 个新等级,4 个新组合。

关键词　铁线莲属; 分类学问题; 新分类群; 新等级; 新组合

Clematis L.

Sect. 1. **Cheiropsis** DC.

Subsect. 1. **Potaninianae** W. T. Wang in Acta Phytotax. Sin. 36(2): 162. 1998, sphalm. *Potanianae*. TYPE: *C*. *potaninii* Maxim.

Sect. *Clematis* subsect. *Potaninianae* M. Johnson, Klematis 410, 451. 1997, p. p. excl. *C*. *trichotomum* Nakai, syn. nov. TYPE: *C*. *potaninii* Maxim.

Lianae lignosae. Folia semel vel bis pinnata. Flores in cymas 1 ~ 3-floras pedunculatas 2-bracteatas in axillis foliorum rami hornotini nascentes dispositi. Sepala 4 ~ 6(~ 7), patentia, obovata vel anguste obovata, apice rotundata, intus glabra, extus puberula ad marginem haud velutina. Antherae anguste oblongae, apice obtusae.

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1 短梗铁线莲

Clematis brevipes Rehd. in J. Arn. Arb. 9: 39. 1928; Hand.-Mazz. in Acta Hort. Gotob. 13: 190. 1939; M. Johnson, Klematis 387. 1997. TYPE: China. Gansu, between Kaichow and Minchow, fl. cream-white, 1925-04, Rock 12075 (holotype, GH! isotypes, K! P! S!).

Distribution: China (S Gansu). Only known from the type specimens.

2 美花铁线莲

Clematis potaninii Maxim. in Acta Hort. Petrop. 11: 9. 1890; Hand.-Mazz. in Acta Hort. Gotob. 13: 210. 1939; M. C. Chang in Fl. Reip. Pop. Sin. 28: 226, pl. 75. 1980.——*C. montana* DC. var. *potaninii* (Maxim.) Finet & Gagnep. in Bull. Soc. Bot. France 50: 525. 1903. TYPE: China. Gausu, Potanin s. n. (syntype, LE, not seen; isosyntype, P!).

C. fargesii Franch. in J. de Bot. 8: 273. 1894.——*C. potaninii* var. *fargesii* (Franch.) Hand.-Mazz. in Acta Hort. Gotob. 13: 211. 1939. TYPE: China. Sichuan, Chengkou, Farges 477 (holotype, P!).

C. fargesii var. *souliei* Finet & Gagnep. l. c. 523. TYPE: China. Sichuan, Kangding, Soulie s. n. (syntype, P!), Pratt 520 (syntypes, K! P!).

Distribution: China (E Xizang, NW Yunnan, W & N Sichuan, S Gansu, S Shaanxi).

C. brevipes easily differs from *C. potaninii* in its once pinnate leaves, 1-flowered axillary cymes, and the flower with 4 sepals. In *C. potaninii*, the leaves are usually bipinnate, the axillary cymes are 1 ~ 3-flowered, and the flower has 5 ~ 6 (~ 7) sepals.

C. brevipes and *C. potaninii* are related to *C. montana* DC. in having similar primitive floral structure. In these species, the sepals are spreading, membranous in texture, obovate or narrowly obovate in outline, at apex rounded, and abaxially on margin either puberulous or glabrous, never velutinous, the stamens are glabrous, and the anthers are oblong or narrowly oblong in outline, at apex with no connective projections. *C. brevipes* and *C. potaninii* differ from *C. montana* in their flowers being arranged in pedunculate 2-bracteate cymes arising from the leaf axils of the homotinous branches. In *C. montana* and its allies, 1 ~ 6 flowers are only pedicellate, and arise together with leaves from an axillary bud of an old branch. Handel-Mazzetti (1939) correctly put these two species near *C. montana* within sect. *Cheiropsis*. His treatment was followed by Chang (1980). Wang (1998) esteblished a new subsection under sect. *Cheiropsis* for them. However, Rehder & Wilson (1913) put *C. fargesii* Franch. (= *C. potaninii*) together with *C. apiifolia* DC. and its allies into sect. *Vitalbae*, and Johnson (1997) esteblished a new susection for *C. potaninii* and *C. trichotoma* Nakai under sect. *Clematis*, represented by *C. vitalba* L., *C. apiifolia* DC. etc., in which the sepals are oblong, oblanceolate, or lanceolate in outline, abaxially on the very margin covered with a narrow stripe of velvety indumentum. The Korean species, *C. trichotoma* has the same type of sepals of *C. vitalba* and *C. apiifolia*, and should belong to sect. *Clematis* subsect. *Clematis* (see below).

Subsect. 2. **Heynianae** W. T. Wang, subsect. nov. TYPE: *C. heynei* Rau.

Affinis subsect. *Potanianis* M. Johnson, differt foliis ternatis, sepalis oblanceolatis, antheris linearibus apice minute apiculatis.

3 **Clematis heynei** Rau in Sharma *et al*. Fl. Ind. 1: 67. 1991.——*C. triloba* Heyne ex Roth, Nov. Pl. Sp. Ind. Or. 251. 1821, non Thunb. 1794; DC. Prodr. 1: 8. 1824; Wight & Arn. Prodr. Fl. Penin. Ind. Or. 1: 2. 1834; Hook. f. & Thoms. Fl. Ind. 7. 1855; et in Hook. f. Fl. Brit. Ind. 1: 3. 1872; Kuntze in Verh. Bot. Verb. Brand. 26: 150. 1885; Prantl in Bot. Jahrb. 9: 259. 1888; Finet & Gagnep. in Bull. Soc. Bot. France 50: 526. 1903; Muke-

rjee in Bull. Bot. Surv. Ind. 1: 140. 1959; Gupta in Bull. Nat. Bot. Gard. Lucknow 54: pl. 18. 1961; Kapoor, l. c. 78: 56. 1962. TYPE: Specimen collected from E India, not seen.——*C. heynei* M. Johnson, Klematis 432. 1997, syn. nov.

India. Pachmarhi: Hole 1969 (GH), Haines 2907 (K); Central Province, Kanala Range, Duthie 10296 (US); Maharashtra, Janardhanan 72888 (K), Hamddri 104271 (BM); Concan, Law s. n. (K), Stocks & Law s. n. (K); Decan Hills, Gibson s. n. (K).

Distribution: India.

De Candolle (1824) put *C. triloba* Heyne ex Roth in sect. *Flammula*. Prantl (1888) put it in sect. *Flammula* subsect. *Rectae* near *C. recta* L. Johnson (1997) put it in sect. *Clematis* subsect. *Clematis* represented by *C. vitalba* L. Either *C. vitalba* group or *C. recta* group belongs to sect. *Clematis*, and has sepals with velutinous margins. In *C. heynei* Rau (= *C. triloba* Heyne ex Roth), the sepals are adaxially glabrous, abaxially sericeous, on margin puberulous or glabrous, not velutinous, thus, in this respect *C. heynei* is similar to *C. brevipes* and *C. potaninii*, but differs from them in its ternate leaves and oblanceolate sepals, and in its anthers being linear in outline and at apex minutely apiculate.

Sect. 2. **Clematis**

Subsect. 1. **Clematis**

4 **Clematis trichotoma** Nakai in Bot. Mag. Tokyo 26: 323. 1912; Lee, Ill. Fl. Korea 345, fig. 1379. 1979; M. Johnson, Klematis 454. 1997. TYPE: Korea. Mt. Diamond, 1906-06, Faurie 141 (holotype, not seen).——*C. vitalba* auct. non. L.: Lévl. in Bull. Acad. Intern. Geogr. Bot. 11: 299. 1902; Nakai, Fl. Korea. 1: 10. 1911.

Korea. Kogen: E. H. Wilson 9271(GH), 10544 (K); Koan-nyong, Nakai 1996 (GH); Kangwon, Kondo 9032 (TI).

Distribution: Korea.

C. trichotoma is closely related to the Chinese *C. grandidentata* (Rehd. & Wils) W. T. Wang, from which it differs in its 3-flowered axillary cymes, and its longitudinally and irregularly rugose glabrous achenes. In *C. grandidentata*, the axillary cymes are usually 5 ~ 6- rarely 3-flowered and often raceme-like, and the achenes are not rugose, puberulous in var. *grandidentata* and glabrous in var. *likiangensis* (Rehd.) W. T. Wang.

5 **裂叶铁线莲**

Clematis parviloba Gardn. & Champ. in J. Bot. Kew. Gard. Misc. 1: 241. 1849; Benth. Fl. Hongk. 6. 1861; Maxim. in Bull. Acad. Sci. St-Petersb. 22: 220. 1876; Kuntze in Verh. Bot. Verb. Brand. 26: 102. 1885; Forb. & Hemsl. in J. Linn. Soc. Bot. 23: 6. 1886; Pei in Contr. Biol. Lab. Sci. Soc. China 10: 108. 1936; in Sinensia 7: 476. 1936, p. p.; et in Sunyatsenia 4: 164. 1940; Hand.-Mazz. in Acta Hort. Gotob. 13: 213. 1939; T. C. Ting in Fl. Reip. Pop. Sin. 28: 180. 1980, p. p.; M. C. Chang in Iconogr. Corm. Sin. Suppl. 1: 467. 1982, p. p.; C. Y. Wu, Ind. Fl. Yunnan. 1: 112. 1984, p. p.; Lin & Zhao in Fl. Fujian. 2: 28, fig. 22. 1985; Y. K. Li in Fl. Guizhou. 3: 59, pl. 25, fig. 1 ~ 5. 1986; W. T. Wang

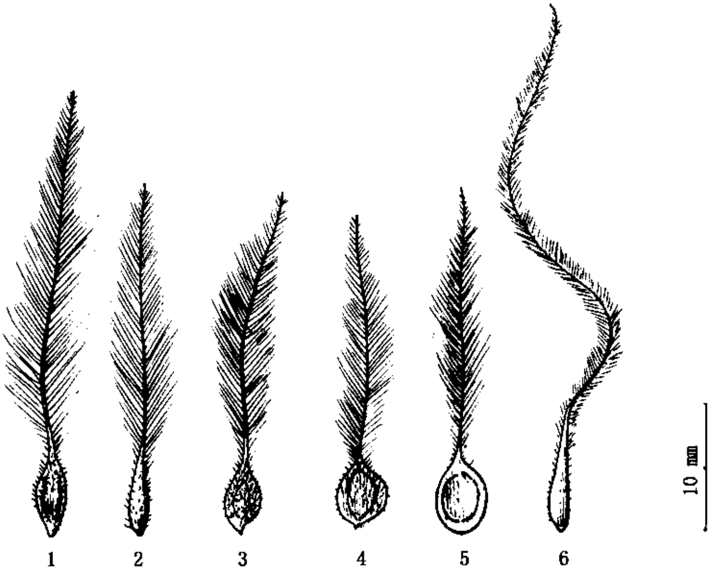

Fig. 1 Achenes 1. *Clematis parviloba* var. *parviloba* (from R. H. Luo 11947); 2. *C. pierotii* (from Furuse 11814); 3. *C. puberula* var. *puberula* (from B. S. Li & S. Z. Cheng 1721); 4. *C. puberula* var. *tenuisepala* (from C. C. Li 22); 5. *C. puberula* var. *ganpiniana* (from G. H. Yang 59860); 6. *C. sigensis* (from Luke 1625).

in Fl. Guangxi 1: 288. 1991, p. p.; Z. H. Lin in Fl. Zhejiang 2: 288, fig. 2-382. 1992; M. Johnson, Klematis 446. 1997. TYPE: China. Hongkong, towards West-Point, Champion s. n. (holotype, K!).

Varietatum clavis analytica

1. Antherae 1 ~ 1.8 mm longae, oblongae vel anguste oblongae; folia biternata vel bipinnata.

  2. Foliola margine integra; antherae apice obtusae.

    3. Sepala lanceolata vel oblongo-lanceolata, 1.6 ~ 2 cm longa, 3.5 ~ 8 mm lata, apice attenuata; antherae 1.2 ~ 1.8 mm longae; achenia anguste ovata vel anguste elliptica, ca. 5 mm longa, 2.2 ~ 2.8 mm lata, plus minusve marginata ………………………………………………………………… var. **parviloba**

    3. Sepala minora, obovato-oblonga, 1 ~ 1.1 cm longa, 4 ~ 5 mm lata, apice obtusa; antherae 1 ~ 1.2 mm longae; achenia rhombico-elliptica, ca. 4 mm longa, 2.6 mm lata, haud marginata ……………………………………………………………………………………… var. **rhombico-elliptica**.

  2. Foliola margine dentata, raro integra; sepala elliptico-oblonga vel anguste oblonga, 1.3 ~ 1.6(~ 2.5) cm longa, 5 ~ 6.5(~ 12) mm lata, apice acuta; antherae 1 ~ 1.6 mm longae, apice obtusae vel minute apiculatae ……………………………………………………………………………………… var. **bartlettii**

1. Antherae 2.2 ~ 3 mm longae, anguste oblongae vel lineares; foliola margine integra.

    4. Folia biternata; cymae axillares 3-florae; sepala ovato-oblonga, ca. 1.8 cm longa, 7 mm lata, apice obtusa; antherae anguste oblongae, 2.2 ~ 2.5 mm longae, apice obtusae ……………………… var. **suboblonga**

    4. Folia pinnata, 5-foliolata; cymae axillares 1-florae; sepala anguste lanceolato-oblonga, 2 ~ 2.4 cm longa, 5 ~ 7 mm lata, apice obtusa; antherae lineares, 2.8 ~ 3 mm longae, apice obtusae vel minute apiculatae ……………………………………………………………………………………… var. **longianthera**

5a Var. **parviloba**

China. **Hongkong**: Wilford 376, C. Wright s. n. (K). **Guangdong**: Huaiji, R. J. Wang 1355 (PE). **Jiangxi**: Xunwu, Z. B. Yang & G. Yao 2469 (PE); Longan, Jiangxi Exped. 70-1283 (PE); Dayu, Z. S. Yuo 1347 (PE). **Zhejiang**: Taishun, S. Chen 3477 (PE), R. C. Ching 2110 (US); Pingyang, S. Y. Zhang 5954 (PE). **Guangxi**: Longan, R. H. Luo 11947 (PE); Jingxi, C. C. Chang 14585 (PE); Lingyun, Z. T. Li 603546 (PE); Quanzhou, J. X. Zhong 83368 (PE). **Guizhou**: Xingren, C. Z. Dang 164 (PE). **Yunnan**: Shuangjiang, J. S. Xin 1203 (PE).

Distribution: China (Hongkong, Guangdong, Fujian, Zhejiang, Jiangxi, Guangxi, Guizhou, Yunnan).

5b 菱果裂叶铁线莲 变种

Var. **rhombico-elliptica** W. T. Wang, var. nov.

A var. *parviloba* differt sepalis minoribus 1 ~ 1.1 cm longis 4 ~ 5 mm latis apice obtusis, acheniis rhombico-ellipticis haud marginatis.

China. **Yunnan**: Mengzi, 1800 m, at forest margin, 1932-12-08, H. T. Tsai 52390 (holotype, PE); same locality, 1934-10-09, C. W. Wang 83349 (PE); Wenshan, 1933-01-18, H. T. Tsai 51598 (PE); Yanshan, 1939-09, 10, C. W. Wang 83713, 84207 (PE); Xichou, 1947-09-10, K. M. Feng 11704, 12512 (PE); Funing, 1965-10-04, Wenshan Exped. 76 (PE); Malipo, 1947-11, K. M. Feng 13184, 13421 (PE).

5c 巴氏铁线莲 变种

Var. **bartlettii** (Yamam.) W. T. Wang, st. nov.——*C. bartlettii* Yamam. in Trans. Nat. Hist. Soc. Formos. 20: 101. 1930; Liu & Hsieh in Fl. Taiwan 2: 482. 1976. ——*C. parviloba* ssp. *bartlettii* (Yamam.) T. Y. Yang & T. C. Huang in Taiwania 40(3): 235, fig. 14, 1995; et in Fl. Taiwan, 2nd ed., 2: 532, pl. 251. 1996. TYPE: China. Taiwan, Taihoku, between Doba and Taiheishan, Bartlett 6011 (holotype, TAI, not seen; isotype, US!).

China. **Taiwan**: Hualian, C. F. Hsieh 330 (PE); Nantou, T. Y. Yang & K. H. Wang 3717, H. M. Song 4216 (PE), C. C. Chuang 4043 (US); Taizhong, T. Y. Yang & N. T. Wu 2599 (PE), W. P. Leu 355 (GH); Yilan, Tamura & Koyama 23793 (KYO).

5d 长圆裂叶铁线莲 变种

Var. **suboblonga** W. T. Wang, var. nov.

A var. *parviloba* differt sepalis suboblongis vel oblongo-ovatis 1.8 cm longis 7 mm latis apice obtusis, antheris 2.2 ~ 2.5 mm longis.

China. **Sichuan**: Nanchuan, Xiaohe, 960 m, in forests, 1957-04-24, J. H. Xiong & Z. L. Zhou 90444 (holotype, PE).

5e 长药裂叶铁线莲 变种

Var. **longianthera** W. T. Wang in Acta Phytotax. Sin. 36(2): 156. 1998. TYPE: China. Sichuan, Mt. Emei, 800 m, 1932-04-25, T. T. Yü 547 (holotype, PE!).

Distribution: China (W Sichuan).

6 短毛铁线莲

Clematis puberula Hook. f. & Thoms. in Hook. f. Fl. Brit. Ind. 1: 4. 1872; Mukerjee in Bull. Bot. Surv. Ind. 1(1): 140. 1959; Gupta in Bull. Nat. Bot. Gard. Lucknow 54: pl. 15. 1961; Kapoor l. c. 78: 42. 1962; Hara in Hara & Williams, Enum. Flow. Pl. Nepal 2: 15. 1979; Grierson & Long, Fl. Bhutan 1(2): 290. 1984; Rau in Sharma *et al*. Fl. Ind. 1: 74. 1993; M. Johnson, Klematis 448. 1997.——*C. parviloba* Gardn. & Champ. ssp. *puberula* (Hook. f. & Thoms.) Kuntze in Verh. Bot. Verb. Brand. 26: 148. 1885. TYPE: India. Khasia, Nurting, 1850-10-01, J. D. Hooker & Thomson s. n. (lectotype, K! isolectotype, P!); Garhwal, Falconer 7 (syntype, K!).

C. parviloba auct. non Gardn. & Champ.: Pei in Sinensia 7: 476. 1936, p. p. quoad Tsiang 12116, 12279; C. T. Ting in Fl. Reip. Pop. Sin. 28: 180. 1980, p. p. quoad pl. boreali-yunnan.; L. Q. Li in Vasc. Pl. Hengduan Mount. 1: 525. 1993.

Varietatum clavis analytica

1. Ovaria et achenia puberula.
    2. Foliola subtus dense vel sparse puberula; sepala extus dense puberula ························ var. **puberula**
    2. Foliola subtus et sepala extus sparse puberula vel subglabra ································ var. **tenuisepala**
1. Ovaria et achenia glabra.
    3. Foliola subtus plus minusve dense sericeo-puberula ·· var. **subsericea**
    3. Foliola subtus sparse puberula vel subglabra ·· var. **ganpiniana**

6a Var. **puberula**

China. **Sichuan**: Luding, T. P. Wang 9720, 9886 (PE). **Yunnan**: Gongshan, C. W. Wang 66932, T. T. Yü 23038, K. M. Feng 7067, 8149 (PE); Bijiamg, H. T. Tsai 58536 (PE); Fugong, H. T. Tsai 58969 (PE); Weixi, P. Y. Mao 860 (PE); Zhongdian, T. T. Yü 14934, K. M. Feng 2248 (PE); Lijiang, Zhongdian Exped. 62-2185 (PE); Lanping, H. T. Tsai 56168 (PE); Binchuan, T. N. Liou 21625; Jingdong, Y. Tsiang 12116, M. K. Li 408, 535, 2253 (PE); Chuxiong, M. K. Li 304 (PE); Dongchuan, Lan Shun-bin 304 (PE). **Xizang**: Dirang Dzong, F. Kingdon Ward 12425 (UPS); Medog, B. S. Li & S. Z. Cheng 1721 (PE).

India. Garhwal: Strachy & Winterbottom 14 (K); Mussouree, Iameson 777 (K).

Nepal. Rara: Gum, Polunin, Sykes & Williams 3051 (GH, UPS); from Tete to Charsa, Grey-Wilson & Philips 858 (K); between Dana and Ghasa, Tabata *et al*. 6126 (GH); S of Tukucha, Stainton, Sykes & Williams 7708 (UPS).

Distribution: China (W Sichuan, N Yunnan, SE Xizang); N Myanmar; India (Assam, Garhwal); Bhutan; Nepal.

6b 毛果扬子铁线莲 变种

Var. **tenuisepala** (Maxim.) W. T. Wang, comb. nov.——*C. brevicaudata* DC. var. *tenuisepala* Maxim. in Acta Hort. Petrop. 11: 9. 1890; Hand.-Mazz. in Acta Hort. Gotob. 13:

216. 1939; Ding *et al*. Fl. Henan. 1: 453. 1981.——*C*. *ganpiniana* (Lévl. & Van.) Tamura var. *tenuisepala* (Maxim.) C. T. Ting in Fl. Reip. Pop. Sin. 28: 188, pl. 58. 1980; Fl. Jiangsu. 2: 175. 1982; W. T. Wang in Fl. Guangxi 1: 290. 1991; Z. H. Lin in Fl. Zhejiang 2: 290. 1992; Y. Z. Ling *et al*. in Fl. Shanxi. 1: 642. 1992; M. Johnson, Klematis 444. 1997. TYPE: China. Gansu, near Wenxian, Fengshanling, 1885-09-09, Potanin s. n. (holotype, LE, not seen).

C. *brevicaudata* var. *filipes* Rehd. & Wils, in Sarg. Pl. Wils. 1: 341. 1913; Hand.-Mazz. l. c.; Fl. Tsinling. 1(2): 300. 1974; Ding *et al*. Fl. Henan. 1: 453. 1981. TYPE: China. Hubei, Yichang, Henry 4583 (holotype, GH!).

China. **Guangxi**: Guilin, Guangxi Exped. 53-3793 (PE). **Yunnan**: Dongchuan, S. B. Lan 304 (PE). **Sichuan**: Xioushan, Z. C. Zhao 88-2090 (PE); without precise locality, E. H. Wilson 1723(K). **Gansu**: Tao River basin, Rock 13137 (K). **Hubei**: Yichang, Henry 2347 (K, P), 4340, 4361 (GH, K); Xingshan, T. P. Wang 11988 (PE); Laifeng, H. J. Li 7087 (PE); Fangxian, K. M. Liou 8977, 9214 (PE). **Shaanxi**: Meixian, T. N. Liou & P. C. Tsoong 49 (PE); Shanyang, T. P. Wang 16518 (PE); Hanzhong, J. W. Wang 81 (PE); Mt. Taibaishan, T. P. Wang 1953 (PE); Mianxian, K. T. Fu 5530, 5617 (PE); Mt. Zhongnanshan, Y. Y. Pai 1014 (PE). **Shanxi**: Jincheng, S. Y. Bao 1637 (PE); Ruicheng, S. Y. Bao 1536 (PE). **Shandong**: Jinan, C. Y. Chiao 3054 (GH, K, PE), W. J. Jin 7438 (PE); Qufu, ? 34 (PE). **Henan**: Mt. Jigongshan, A. J. Li *et al*. 95 (PE); Songxian, Henan Exped. 59-35189 (PE); Yiyang, Xinxiang Norm. Coll. Exped. 23104A, 23762 (PE); Lingbao, Henan Exped. 59-14278 (PE). **Jiangsu**: Mt. Yuntaishan, F. X. Liou 10874, 10932 (PE). **Zhejiang**: Hangzhou, Hangzhou Bot. Gard. Exped. 58-910 (PE); Mt. Tianmushan, Hangzhou Bot. Gard. Exped. 31277 (PE); Qinghua, K. K. Tsoong 4285 (PE).

Distribution: China (N Guangxi, NE Yunnan, SE Sichuan, S Gansu, S Shaanxi, W Hubei, S & W Henan, S Shanxi, Shandong, NE Jiangsu, N Zhejiang).

6c 毛叶杨子铁线莲 变种

Var. **subsericea** (Rehd. & Wils.) W. T. Wang, comb. nov.——*C*. *brevicaudata* DC. var. *subsericea* Rehd. & Wils. in Sarg. Pl. Wils. 1: 341. 1913; Hand.-Mazz. in Acta Hort. Gotob. 13: 216. 1939. ——*C*. *ganpiniana* var. *subsericea* (Rehd. & Wils.) C. T. Ting in Fl. Reip. Pop. Sin. 28: 187. 1980. TYPE: China. Sichuan, Yaan, 1908-09, E. H. Wilson 2479 (holotype, GH!).

China. **Sichuan**: Kangding, K. C. Kuan, W. T. Wang *et al*. 91 (PE); Yajiang, Z. P. Huang *et al*. 647 (PE); Jinchuan, X. S. Zhang 6594, 6597 (PE); Baoxing, Z. P. Soong 39250 (PE); Mao Xian, Sichuan Exped. 75-8644(PE).

Distribution: China (W Sichuan).

6d 扬子铁线莲 变种

Var. **ganpiniana** (Lévl. & Van.) W. T. Wang, comb. nov.——*C*. *vitalba* L. var. *ganpiniana* Lévl. & Van. in Bull. Acad. Intern. Geogr. Bot. 11(152): 167. 1902.——*C*. *parvilo-*

ba var. *ganpiniana* (Lévl. & Van.) Rehd. in J. Am. Arb. 17: 319. 1936.——*C. brevicaudata* var. *ganpiniana* (Lévl. & Van.) Hand.-Mazz. in Acta Hort. Gotob. 13: 215. 1939; Lauener & Green in Not. R. Bot. Gard. Edinb. 23: 580. 1961; Fl. Hupeh. 1: 373, fig. 528. 1976.——*C. ganpiniana* (Lévl. & Van.) Tamura in Acta Phytotax. Geobot. 15(1): 17. 1953; T. C. Ting in Fl. Reip. Pop. Sin. 28: 184, pl. 57. 1980; M. C. Chang in Iconogr. Corm. Sin. Suppl. 1: 468, fig. 8628. 1982; C. Y. Wu, Ind. Fl. Yunnan. 1: 109. 1984; Lin & Zhao in Fl. Fujian. 2: 29. 1985; W. T. Wang in Acta Bot. Yunnan. 8(3): 269. 1986; Y. K. Li in Fl. Guizhou. 3: 61. 1986; X. W. Wang in Fl. Anhui 2: 340. 1986; W. T. Wang in Fl. Guangxi 1: 290. 1991; Z. H. Lin in Fl. Zhejiang 2: 289. 1992; L. Q. Li in Vasc. Pl. Hengduan Mount. 1: 525. 1993; M. Johnson, Klematis 443. 1997. TYPE: China. Guizhou, Ganpin, 1897-08-04, Martin & Bodinier 1882 (lectotype, E!; isolectotype, P!); same locality, 1897-08-09, Martin & Bodinier 1788, 1883 (syntypes, E! P!).

C. parviloba Gardn. & Champ. var. *glabrescens* Finet & Gagnep. in Bull. Soc. Bot. France 50: 534. 1903; Lévl. Fl. Kouy-Tcheou 333. 1915. SYNTYPES: China. Hubei, Henry 4338 (P!). Sichuan: Farges s. n. (P!). Guizhou: Martin & Bodinier 1788, Seguin & Bodinier 1992 (P!). Yunnan: Duloux 618 (P!).

C. brevicaudata DC. var. *lissocarpa* Rehd. & Wils. in Sarg. Pl. Wils. 1: 340. 1913; Rehd. in J. Am. Arb. 8: 106. 1927. TYPE: China. Jiangxi, Lushan, E. H. Wilson 1552 (holotype, GH!; isotype, K!), 1551, 1553 (paratypes, GH! K!). Hubei: Henry 6462 (paratype, GH!).

C. pierotii auct. Non Miq.: Finet & Gagnep. in Bull. Soc. Bot. France 50: 534. 1903, p. p. quoad pl. Sinen.

China. Xizang: Yigong, B. S. Li *et al*. 6487 (PE); Chayü, Tsawarung, C. W. Wang 66381 (PE). **Yunnan**: Deqin, T. T. Yü 10615, K. M. Feng 5770 (PE); Jianchuan, Forest 22263 (K); Lanping, H. T. Tsai 5609 (PE); Lijiang, R. C. Ching 21553 (PE); Heqing, R. C. Ching 24336 (PE); Kunming, T. N. Liou 14096, 14554 (PE); Pingbian, H. T. Tsai 62477 (PE); Wenshan, H. T. Tsai 51598 (P). **Sichuan**: Butuo, Liangshan Exped. 59-5712 (PE); Mt. Emei, F. T. Wang 23282 (P, PE); Baoxing, K. L. Chü 3676 (BM, K, P, PE); Jinchuan, X. Li 75615 (PE); Heishui, X. Li 73478 (PE); Lixian, Q. Ŝ. Zhao 232 (K, PE, UPS); Pingwu, W. P. Fang 4207 (P, PE); Chengkou, Farges 2 (K); Wushan, G. H. Yang 59860 (PE); Nanchuan, W. P. Fang 10235, G. F. Li 63852 (PE). **Guizhou**: Anlong, Y. Tsiang 7393 (K, PE); Gan-Chouen, Cavalerie 7869 (K); Pin-fa, Cavalerie 433 (P); Dushan, Y. Tsiang 6767 (GH, PE); Mt. Fanjingshan, Bartholomev *et al*. 1169 (GH). **Guangxi**: Pingluo, S. Q. Zhong 62880 (PE); Yangshuo, R. H. Shan 1143 (PE); Guilin, W. T. Tsang 28370 (PE). **Guangdong**: Luochang, W. T. Tsang 20891 (PE). **Hunan**: Yizhang, L. H. Liu 1350 (HNNU); Wugang, Hande-Mazzetti 12508 (GH); Yongshun, Wulingshan Exped. 88-1140 (PE). **Hubei**: Yichang, Henry 6462 (P); Xianfeng, Y. M. Zhang 6858 (PE). **Jiangxi**: Mt. Lushan, H. H. Hu 1389 (GH), E. H. Wilson 1552 (US); Wuyuan, R. C. Ching 3233 (GH, K); Qianshan, J. P. Jian *et al*. 400957 (PE); Mt. Wugongshan, Jiangxi Exped. 54-1199 (PE). **Fujian**: Taining, M. S. Li 1229 (PE). **Zhejiang**: Kaihua, J. X. Wang 1812 (PE). **Anhui**: Mt. Huangshan, R. C. Ching 3070 (GH, K), W. C. Cheng 1296 (PE); Qimen, R. C. Ching 3148 (GH); Jinzhai, X. S. Shen 1783 (PE). **Henan**: Yichuan, H. M. Shi 22822 (HEAC).

Distribution: China (E Xizang, N Yunnan, Sichuan, Guizhou, N Guangxi, N Guangdong, Hunan, Hubei, Jiangxi, Fujian, Zhejiang, S Anhui, S Henan, S Shaanxi).

In subsect. *Clematis*, *C. puberula* with four varieties is distinguished from other species of that subsection, including its two close allies, *C. parviloba* Gardn. & Champ. and *C. pierotii* Miq., by its strongly compressed, complanate, conspicuously marginate, suborbicular achenes (Unfortunately, until now no fruiting specimen of var. *subsericea* has been collected.), and may be the most advanced member of that subsection. In *C. parviloba* and *C. Pierotii*, the achenes are less compressed, slightly convex on each side, narrowly ovate or elliptic in outline, inconspicuously or entirely not marginate. (Fig. 1: 1~5)

7 **Clematis cinnamomoides** W. T. Wang, sp. nov. Fig. 2: 4~6

Species nova ob sepala obovato-oblonga extus ad marginem velutina, stamina glabra et antheras oblongas subsect. *Clematidi* fortasse pertinens, sed in hac subsectione foliolis coriaceis reticulatis valde insignis.

Liana lignosa. Rami vadose 6~8-canaliculati, sparse adpresseque puberuli. Folia ternata; foliola coriacea, elliptico-ovata, 8~11 cm longa, 3~5 cm lata, apice acuminata vel longe acuminata, basi rotundata vel late cuneata, margine integra, utrinque glabrescentia, supra paulum subtus conspicue reticulata, trinervia, nervis basalibus subtus valde prominentibus, petiolulis 5~11 mm longis pilosis; petioli ca. 6.5 cm longi, sparse adpresseque puberuli vel glabrescentes. Inflorescentiae axillares, pedunculis inclusis ca. 10 cm longae, paniculiformes, laxiflorae; pedunculi ca. 4.5 cm longi, adpresse puberuli; bracteae subulatae, ca. 7 mm longae. Flos in holotypo ad initium florendi, paulo apertus, ca. 2 cm diametro; pedicellus ca. 1.5 cm longus, dense adpresseque fulvo-puberulus. Sepala 4, alba, obovato-oblonga, ca. 1.2 cm longa, 5 mm lata, apice acuta, intus glabra, extus dense adpresseque fulvo-puberula, margine fulvo-velutina. Stamina numerosa, ca. 7 mm longa, glabra, filamentis linearibus siccitate nigrescentibus, antheris oblongis ca. 1.2 mm longis apice obtusis. Carpella ca. 10, dense pubescentia, stigmatibus graciliter clavatis glabris.

Vietnam. Langson: Raulinh, vine 8~12 m long, fl. White, Eberhardt 3342 (holotype, P).

This new species with obovate-oblong sepals, glabrous stamens, and oblong anthers should be placed in subsect. *Clematis*. However, its coriaceous, reticulate leaflets are rather peculiar in that subsection, in other species of which the leaflets are usually papery or herbaceous, rarely coriaceous, never reticulate. So, no close ally of it can be found at present.

Subsect. 2. **Rectae** Prantl.

Ser. 1. **Rectae** Prantl ex Rehd. & Wils.

8 **Clematis apiculata** Hook. f. & Thoms. in Hook. f. Fl. Brit. Ind. 1: 4. 1872; Finet & Gag-

nep. in Bull. Soc. Bot France 50: 531. 1903; Kanjilal & Das, Fl. Assam 1(1): 3. 1934; Mukerjee in Bull. Bot. Surv. Ind. 1(1): 138. 1959; Gupta in Bull. Nat. Bot. Gard. Lucknow 53: pls. 3, 4. 1961; Kapoor, l. c. 78: 11. 1962; Rau in Sharma *et al*. Fl. Ind. 1: 57. 1993; M. Johnson, Klematis 421. 1997.——*C. apiifolia* DC. ssp. *apiculata* (Hook. f. & Thoms.) Kuntze in Verh. Bot. Verb. Brand. 26: 151. 1885. TYPE: India. Khasia, 1850-09, J. D. Hooker & Thomson s. n. (lectotype, K!); same locality, 1844, Griffith 462(syntype, K!); Churra, 1850-08-12, J. D. Hooker & Thomson s. n. (syntype, K!).

Distribution: India (Meghalaya, Manipur).

Kuntze (1885) treated this species as a subspecies of *C. apiifolia* DC. of subsect. *Clematis*. Johnson (1997) put *C. apiculata* together with *C. apiifolia* and its allies in sect. *Clematis* subsect. *Clematis*. However, *C. apiculata* with anthers being linear in outline and at apex minutely apiculate is different from the species of subsect. *Clematis*, in which the anthers are oblong or narrowly oblong in outline, at apex usually not apiculate. According to the anther morphology, *C. apiculata* should be placed in subsect. *Rectae*, characterized by anthers being linear in outline and often minutely apiculate at apex. In subsect. *Rectae*, it differs from other species in its serrate-dentate leaflets.

9 **Clematis theobromina** Dunn in Kew Bull. 1914: 181. 1914; Gamble, Fl. Presid. Madras 1: 3. 1915; Gupta in Bull. Nat. Bot. Gard. Lucknow 80: pl. 44. 1963; Kapoor, l. c. 124: 71. 1966; Rau in Sharma *et al*. Fl. Ind. 1: 77. 1993; M. Johnson, Klematis 525. 1997. TYPE: India. Conoor, Nilgiri Hills, 1870-03-19, Clarke 11080 (lectotype, K!); same locality, 1870-03-17, Clarke 10987 (syntype, K!).

Distribution: India (Tamil Nadu, Nilgri Hills).

C. theobromina with coriaceous, reddish sepals is similar to some species of sect. *Naraveliopsis* (see below). Thus, it seems to be somewhat reasonable to place *C. theobromina* in sect. *Naraveliopsis* just as Johnson (1997) did in his monograph. However, because in this species the linear anthers entirely have no connective projections, Johnson's treatment is inconsistent with the definition of sect. *Naraveliopsis*, which is characterized by anthers with conspicuous connective projections. According to the anther morphology, *C. theobromina* should be transferred to sect. *Clematis* subsect. *Rectae*, where it differs from other species of that subsection in its coriaceous sepals.

Ser. 2. **Uncinatae** Tamura.

10 **Clematis sigensis** Engler in Bot. Jahrb. 45: 271, fig. 2: A-B. 1910; et Pflanzenwelt Afr. 3 (2): 172, fig. 104: A-B. 1915; Staner & Leonard in Bull. Soc. R. Bot. Belg. 82: 338. 1950; Beentje in Utafiti 2(1): 16. 1989; M. Johnson, Klematis 465. 1997. TYPE: Tanzania. Lushoto District, Sigi Valley, 500 m, 1903-07, Warnecke 452 (holotype, B, not seen).

C. simensis auct. non Fresen.: Milne-Redhead & Turrill, Fl. Trop. East Afr. 1952-02, p. p. tantum guoad syn. *C. sigensis* Engler.

Kenya. Koiogwe District, Mnyussi, Sem Sei 1793 (K); Kwale District, Shimba Hills, Luke 1625 (K).

Tanzania. Muheza District, Kawundagere, Ruffo 263 (K); Lushoto District, Sigi Valley, Zimmemann 6395 (topotype, K!); Sibu, Zimmermann 6394 (K).

Distribution: Kenya; Tanzania.

If the holotype, Warnecke 452, is proved to be destroyed during the second world war, then the topotype cited above may be served as a neotype of *C. sigensis* Engler.

In the protologue, the autheor of *C. Sigensis*, Engler, did not give a discussion about the relationships of this species. Staner and Leonard (1950, l. c.) reported its distribution in Sibu, Tanzania, recognizing the specific rank of it. Milne-Redhead and Turrill (1952, l. c.) reduced it to the synonymy of *C. simensis* Fresen. belonging to sect. *Meclatis* subsect. *Wightianae*, characterized by spreading sepals and hairy stamens. Beentje (1989, l. c.) correctly reinstated *C. sigensis* as an independent species, but did not give a discussion about its systematic position. In his monograph, Johnson (1997) put this species in his sect. *Clematis* subsect. *Africanae* (= sect. *Meclatis* subsect. *Wightianae*, see Wang 2000) with spreading sepals and hairy stamens. As a matter of fact, *C. sigensis* with pinnate leaves, entire leaflets, spreading narrowly oblong sepals, glabrous stamens, linear anthers, and narrowly lanceolate hairy achenes (Fig. 1: 6) is similar to *C. uncinata* Champ. var. *okinawensis* (Ohwi) Ohwi, and is proved to be the second species of ser. *Uncinatae* and the unique representative of sect. *Clematis* occurring in tropical Africa, all other species of which are wide-spread in Asia and Europe, and only two species, *C. vitalba* L. and *C. flammula* L. extend southward from Europe to North Africa.

Sect. 3. **Fruticella** Tamura.

11　Clematis salsuginea Bunge in herb., sp. nov. Fig. 2: 1～3

Affinis *C. canescenti* (Turcz.) W. T. Wang & M. C. Chang et *C. fruticosae* Turcz., illa foliis lineari-lanceolatis vel linearibus utrinque sparsius puberulis, sepalis extus sparse puberulis differt, et haec ramulis sparse puberulis, foliis viridibus plerumque 3-lobatis glabris, sepalis extus glabris recedit.

Fruticulus erectus. Rami 6-canaliculati, glabrescentes, prope apicem ad nodos dense depresseque puberuli; ramuli oppositi, velutini. Folia opposita, simplicia, breviter petiolata; laminae cinereo-virides, coriaceae, lanceolatae vel anguste lanceolatae, 1.9～3(～5) cm longae, 2.5～8 (～16) mm latae, apice pungentes, basi cuneatae, margine supra basin utrinsecus 1(～2)-dentatae, rarius integrae, indivisae, raro 3-lobatae, utrinque densissime depresseque puberulae, 3-neves, nervis basalibus lateralibus obscuris; petioli 1.5～3 mm longi. Cymae terminales, 3～5-florae; pedunculi 1～1.2 cm longi, cum pedicellis velutini; bracteae triangulares, ca. 2 mm longae, velutinae. Flos ca. 2 cm diametro; pedicellus 3～4 longus. Sepala 4, patenti-erecta, lanceolata, 1.2～1.3 cm longa, 4～5 mm lata, apice acuta, intus glabra, extus dense adpresseque puberula, margine velutina. Stamina numerosa, 8～10 mm longa, glabra, filamentis lanceolato-linearibus, antheris linearibus 2.8～3.2 mm longis leviter angustioribus quam filamentis apice obtusis. Ovaria dense pubescentia; styli dense villosi.

Mongolia. without precise locality, Bunge s. n. (holotype, K; isotype, P); Pan Chiang,

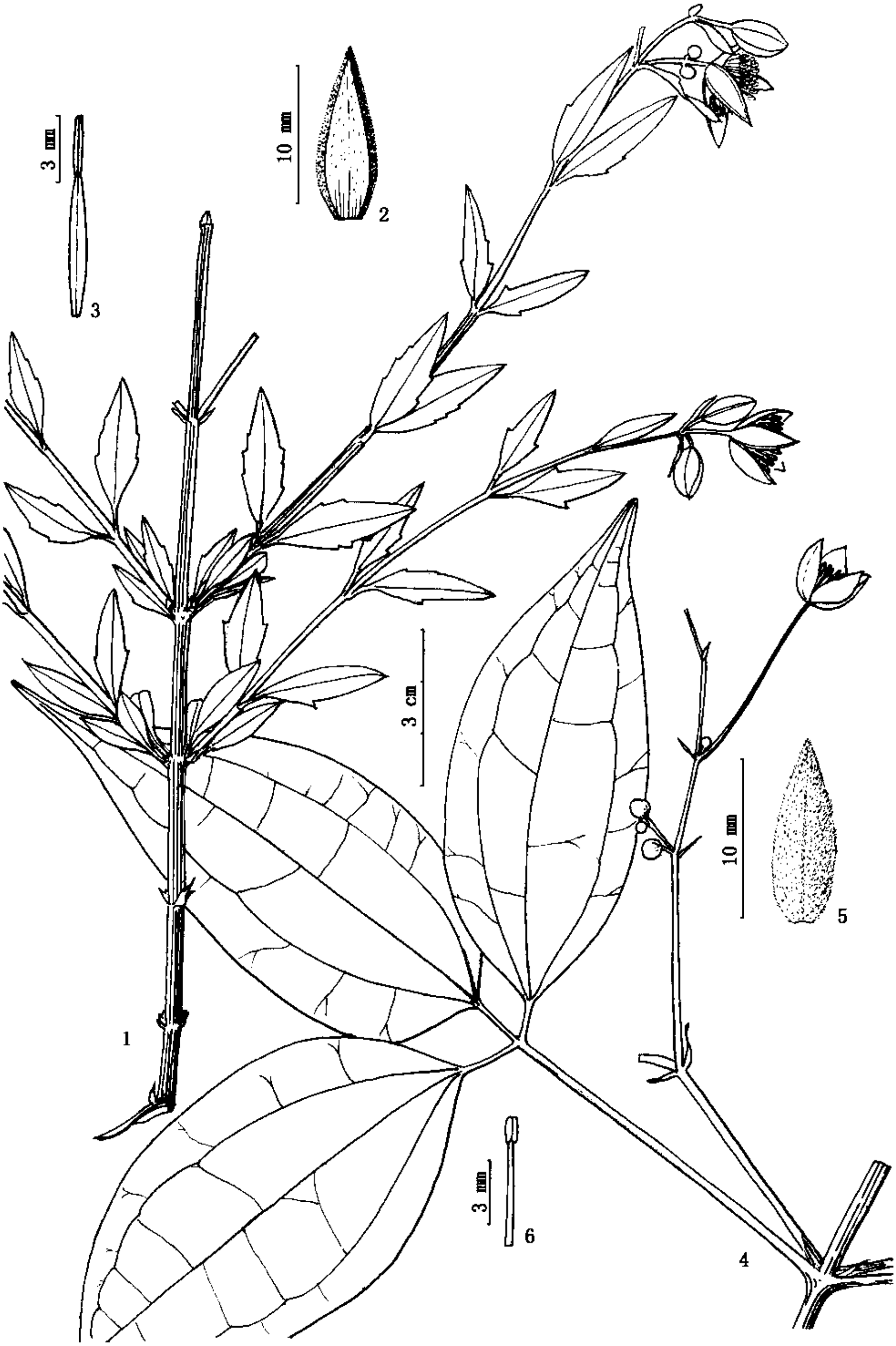

Fig. 2 1～3. *Clematis salsuginea* 1. Flowering branch； 2. Sepal outside； 3. Stamen. （from Bunge s. n.）. 4～6. *C. cinnamomoides* 4. Leaf and its axillary inflorescence； 5. Sepal outside； 6. Stamen. （from Eberhardt 3344）

1920-07-24, Y. G. Andersson 772 （UPS）.

Sect. 4. **Naraveliopsis** Hand-Mazz. in Acta Hort. Gotob. 13： 219. 1939. Lectotype： *C*.

smilacifolia Wall. (Eichler, 1958). (Spp. 12~31)

As mentioned above sect. *Naravelippsis* is characterized by its anthers with conspicuous connective projections. It consists of 20 species wide-spread in tropical Asia.

In this section the appearance of linear antherless staminodes and hairy stamens, and disappearance or strong reduction of one whorl of reproductive organs are important events during its evolution, and these phenomena are used as important characters for the following classification of its species.

Taxorum infragenericorum clavis analytica

1. Flos bisexualis.
2. Staminodia nulla; stamina glabra ········ subsect. 1. **Smilacifoliae**
3. Folia simplicia.
4. Sepala intus glabra.
5. Folia haud reticulata; sepala purpurea ········ 12. C. **smilacifolia**
6. Antherae anguste oblongae, (1~) 2~3.5 (~4) mm longae, connectivorum projecturis (0.5~) 1~2 mm longis; achenia anguste ovata vel anguste rhombica, 6~8 (~11) mm longa ········ 12i. ssp. **smilacifolia**
7. Folia basi haud vel leviter peltata ········ 12ia. var. **smilacifolia**
7. Folia basi conspicue peltata, petiolis ad laminas 6~15 mm supra basin insertis ········ 12ib. var. **peltata**
6. Antherae lineares, 4~6.5 mm longae, connectivorum projecturis usque ad 0.5 mm longis; achenia late ovata vel suborbicularia, 4~6 mm longa ········ 12ii. ssp. **andamanica**
5. Folia subtus reticulata; sepala lutea ········ 13. C. **metouensis**
4. Sepala intus brunneo-velutina; folia utrinque reticulata ········ 14. C. **fulvicoma**
3. Folia ternata vel pinnata.
8. Petioli basi laminis stipuliformibus instructi.
9. Rami ad nodos et petiolorum laminae stipuliformes subtus dense furfuraceae; sepala alba; folia pinnata, 7-foliolata ········ 23. C. **fengii**
9. Rami et petiolorum laminae stipuliformes haud furfuraceae; sepala atropurpurea vel purpurea.
10. Folia ternata; sepala 4, 1.2~1.4 cm longa; connectivorum projecturae 3 mm longae ········ 24. C. **herrei**
10. Folia pinnata, 5-foliolata, interdum ternata; sepala majora, 1.8~4 cm longae; connectivorum projecturae 0.5~2 mm longae.
11. Sepala 4, 3.5~4 cm longa; connectivorum projecturae 0.7 mm longae ··· 25. C. **korthalsii**
11. Sepala 4~6, 1.8~3 cm longa; connectivorum projecturae 0.5~2 mm longae ········ 26. C. **tashiroi**
8. Petioli laminis stipuliformibus carentes.
12. Folia ternata.
13. Sepala intus velutina, 4 ········ 17. C. **andersonii**
13. Sepala intus glabra.
14. Sepala 4, 8~10 mm longa ········ 20. C. **hedysarifolia**
14. Sepala majora, 2.5~3 cm longa.

15. Sepala alba; filamenta prope apicem saepe constricta ………………………………… 18. C. **munroiana**

15. Sepala purpurea; filamenta haud constricta.

16. Pedicelli glabri; sepala 6 ……………………………………………………………… 15. C. **crassipes**

16. Pedicelli dense puberuli; sepala 4 …………………………………………………… 16. C. **pubipes**

12. Folia pinnata, 2-ternata vel 2-pinnata.

17. Ovaria glabra; folia 1 ~ 2-pinnata; connectivorum projecturae 0.4 mm longae … 19. C. **menglaensis**

17. Ovaria dense pubescentia.

18. Connectivorum projecturae 1 ~ 2.8 mm longae, haud papillatae; sepala 4.

19. Foliola haud reticulata; sepala 2.7 ~ 3.5 cm longa; connectivorum projecturae 2.2 ~ 2.8 mm longae; folia pinnata, 5-foliolata ………………………………………… 22. C. **pianmaensis**

19. Foliola utrinque reticulata; sepala minora, 8 ~ 11 mm longa; connectivorum projecturae 1 ~ 2 mm longae.

20. Folia pinnata, 5-foliolata; sepala extus velutina ……………………… 20. C. **hedysarifolia**

20. Folia 2-ternata; sepala extus puberula ……………………………… 21. C. **bourdillonii**

18. Connectivorum projecturae 6.5 ~ 8.5 mm longae, dense papillatae; folia pinnata, 5 ~ 7-foliolata; sepala 1 ~ 1.4 cm longa ……………………………………………………… 27. C. **papillosa**

2. Stamina exteriora sterilia in staminodia anguste linearia antheris carentia transientia … subsect. 2. **Liboenses**

21. Stamina glabra, antheris anguste oblongis 2 ~ 2.8 mm longis; sepala 4, 1 ~ 2 cm longa ……………………………………………………………………………… ser. 1. **Loureirianae**
28. C. **loureiriana**

21. Stamina pubescentia, antheris linearibus 5 mm longis; sepala 6, 2.5 ~ 3.5 cm longa ……………………………………………………………………………… ser. 2. **Liboenses**
29. C. **liboensis**

1. Flos unisexualis; folia ternata; sepala 4; stamina glabra ……………………… Subsect. 3. **Macgregorianae**

22. Inflorenscentiae 10 ~ 25-florae, paniculiformes; sepala utrinque dense puberula; connectivorum projecturae 2 mm longae ……………………………………………………………… 30. C. **antonii**

22. Inflorenscentiae (1 ~)3 ~ 7-florae, racemiformes; sepala intus glabra; connectivorum projecturae 3 ~ 10 mm longae ……………………………………………………………… 31. C. **macgregori**

Subsect. 1. **Smilacifoliae** W. T. Wang in Acta Phytotax. Sin. 36(2): 163. 1998. TYPE: *C. smilacifolia* Wall.

Flos bisexualis, staminodiis carens. Stamina omnia fertilia, glabra.

12 菝葜叶铁线莲

Clematis smilacifolia Wall. As. Res. 13: 402. 1820; H. Eichler in Bibl. Bot. 124: 44. 1958, cum syn.; M. Johnson, Klematis 522. 1997. TYPE: India. Sylhet, Wallich 4683 (holotype, K!; isotypes, BM! P!).

C. petalotii Gagnep. in Not. Syst. 15: 36. 1954, p. p. quoad descr. inflores., excl. descr. folii, quoad id plantae Vitacearum fortasse est; Ho, Ill. Fl. Vietnam 1: 394, fig. 1105. 1991; M. Johnson, Klematis 521. 1997, syn. nov. TYPE: Vietnam. Tonkin, Hoa-binh, Petelot 6703 (holotype, P!)

C. loureiriana auct. non DC.: Merr. in Trans. Am. Philo. Soc. Philad. n. ser., 24(2):

154. 1935, p. p.; Hand.-Mazz. in Acta Hort. Gotob. 13: 219. 1939; Pei in Sunyatsenia 4: 161. 1940; Gupta in Bull. Nat. Bot. Gard. Lucknow 54: pl. 13. 1961; How & W. T. Wang in Fl. Hainan. 1: 306. 1964; M. Y. Fang in Fl. Reip. Pop. Sin. 28: 228, pl. 76. 1980; W. T. Wang in Fl. Guangxi 1: 291. 1991.

12i Ssp. **smilacifolia**

12ia Var. **smilacifolia**

Distribution: Sri Lanka; India; W Nepal; Bhutan; Bangladesh; Myanmar; China (SE Xizang, S Yunnan, W Guizhou, W Guangxi, Hainan); Thailand; Laos; Cambodage; Vietnam; Malaysia; Philippines; Indonesia; N New Guinea.

After examining the original descriptions of *C. smilacifolia* Wall. and *C. loureiriana* DC. and the rich herbarium material of these two species deposited in K, P etc. in the summer of 1999, I realized that Merrill (1935) erroneously reduced *C. smilacifolia* Wall. to the synonymy of *C. loureiriana* DC., and Eichler (1958) correctly reinstated *C. smilacifolia* Wall. and lapsed *C. filamentosa* Dunn into the synonymy of *C. loureiriana* DC.

On the sheet of the holotype of *C. petelotii* Gagnep. were mounted a detached inflorescence and a detached ternate leaf. The author of this name, Gagnepain in the protologue pointed out that his new species is related to *C. smilacifolia* Wall. and that the new species differs from *C. smilacifolia* mainly in its leaflets with pinnate nervation. As a matter of fact, the detached inflorescence is that of *C. smilacifolia* Wall, and the detached leaf is that of a plant probably belonging to the family Vitaceae. In *Clematis* and its closely related genera, such as *Anemone* and *Naravelia*, the leaves are exclusively palmately veined.

12ib 盾叶铁线莲 变种

Var. **peltata** (W. T. Wang) W. T. Wang, comb. nov. ——*C. loureiriana* DC. var. *peltata* W. T. Wang in Acta Phytotax. Sin. 6(4): 220. 1957; M. Y. Fang in Fl. Reip. Pop. Sin. 28: 230, pl.78, fig. 7. 1980; C. Y. Wu, Ind. Fl. Yunnan. 1: 111. 1984; W. T. Wang in Fl. Guangxi 1: 291. 1991. TYPE: China. Yunnan, Pingbian, Shui-chong-tze, 1956-06-24, Sino-russ. Exped. 4019 (holotype, PE!); same locality, 1934-06-30, H. T. Tsai 60592 (paratype, PE!); Xichou, 1947-09, K. M. Feng 11610, 11956 (paratypes, PE!).

C. subpeltata auct. non Wall: Ho, Ill. Fl. Vietnam 1: 395, fig. 1107. 1991.

China. Yunnan: Yuanyang, Luchun Exped. 74-1608 (PE).

Vietnam. Tonkin: Chapa, Petelot 3763, 4582 (P); Lai Chan, Poilane 27037 (P).

Distribution: China (SE Yunnan, W Guangxi); N Vietnam.

12ii Ssp. **Andamanica** Kapoor in Kew Bull. 19(2): 333, fig. 1. 1965; Rau in Sharma *et al*. Fl. Ind. 1: 76. 1993; M. Johnson, Klematis 524. 1997. TYPE: India. Andaman Islands, Naumnaghar, 1890-09-27, King's collector 147 (holotype, CAL, not seen).

India. S Andaman Isl., Naumnghar Hill, 1893-10-14, King's collector s. n. (US).

Distribution: India (Andaman Islands).

13 墨脱铁线莲

Clematis metouensis M. Y. Fang in Fl. Reip. Pop. Sin. 28: 230, 359, pl. 80, fig. 4~7. 1980; et in Fl. Xizang. 2: 93. 1985; M. Johnson, Klematis 519. 1997. TYPE: China. Xizang, Medog, Beiben, 1974-08-19, Qinghai-Xizang Exped. 74-4341 (holotype, PE!).

Distribution: China (SE Xizang).

14 滇南铁线莲

Clematis fulvicoma Rehd. & Wils. in Sarg. Pl. Wils. 1: 327. 1913; Hand.-Mazz. in Acta Hort. Gotob. 13: 219. 1939; W. T. Wang in Acta Phytotax. Sin. 6(4): 390. 1957; H. Eichler in Bibl. Bot. 124: 49. 1958; Kapoor in Bull. Bot. Surv. Ind. 11 (1~2): 190. 1971; M. Y. Fang in Fl. Reip. Pop. Sin. 28: 230. 1980; C. Y. Wu, Ind. Fl. Yunnan. 1: 109. 1984; Naithani, Flow. Pl. India, Nepal & Bhutan 8. 1990; Ho. Ill. Fl. Vietnam 393, fig. 1101. 1991; Rau in Sharma *et al*. Fl. Ind. 1: 63. 1993; M. Johnson, Klematis 515. 1997. TYPE: China. Yunnan, Mengzi, Henry 9377 (holotype, GH! isotype, K!).

India. Khasia, Clarke 15623 (BM).

Myanmar. Amherst, Lace 5650 (K); Maymyo, Khant 16399 (K).

China. **Yunnan**: Jingdong, B. Y. Qiu 52635(PE); Luxi, H. T. Tsai 56995 (PE); Xichou, K. M. Feng 12530 (PE); Malipo, C. W. Wang 83993, 86469 (PE).

Laos. Poilane 2158, 2371 (P), 28682 (GH, P).

Thailand. Hue Me Kanu, Kerr 4864 (K); Chiangmai, Shimizu *et al*. 19159 (K, P).

Distribution: India (Khasia); Myanmar; China (S Yunnan); Loas; N Thailand; Vietnam (Annam).

15 粗柄铁线莲

Clematis crassipes Chun & How in Acta Phytotax. Sin. 7(1): 3, pl. 1, fig. 2. 1958; How & W. T. Wang in Fl. Hainan. 1: 307. 1964; M. Y. Fang in Fl. Reip. Pop. Sin. 28: 232, pl. 77. 1980; W. T. Wang in Fl. Guangxi 1: 291. 1991; M. Johnson, Klematis 524. 1997. TYPE: China. Hainan, Baoting, Taipingtung, 1935-05-29, F. C. How 72662 (holotype, IBSC, not seen; isotype, PE!); Mt. Baishishan, 1928-06-12, W. T. Tsang 744 (paratype, IBSC, not seen; isoparatype, NAS!).

Distribution: China (Hainan, SW Guangxi).

16 毛梗铁线莲

Clematis pubipes (W. T. Wang) W. T. Wang, st. nov. Fig. 3: 8~10

——*C. crassipes* Chun & How var. *pubipes* W. T. Wang in Acta Bot. Yunnan. 4: 135. 1982; et in Fl. Guangxi 1: 291. 1991. TYPE: China. Guangxi, Shangsi, Mt. Shiwandashan, Baise, Nahau, 420 m, 1966-05-08, S. G. Li 4934 (holotype, GXMI!).

Affinis *C. crassipidi* Chun & How, quae pedunculis pedicellisque glabris, sepalis 6 differt.

Liana lignosa. Rami subteretes, vadose 10-canaliculati, glabri. Folia ternata, glabra; foliola coriacea, ovata, 5~11.5 cm longa. 2.8~7 cm lata, apice acuta, basi rotundata, subtruncata vel subcordata, margine integra, nervis basalibus 5 fere planis, petiolulis 1~2.5 cm longis; petioli 5.5~12 cm longi. Cymae axillares, 2~3-florae; pedunculi robusti, ca. 1 cm longi, cum pedicellis

dense adpresseque ferrugineo-puberuli; bracteae triangulares, ca. 4 mm longae. Pedicelli robusti, 2~5 cm longi, apice paulo incrassati. Sepala 4, oblongo-ovata, ca. 2 cm longa, 7 mm lata, apice acuta, intus glabra, extus dense brunneolo-puberula. Stamina ca. 1.1 cm longa, glabra, filamentis linearibus antheris paulo brevioribus, antheris anguste linearibus ca. 6 mm longis, connectivorum projecturis 0.5~1 mm longis. Ovaria dense pubescentia; styli ca. 1.1 cm longi, dense villosi.

China. **Hainan**: Luodong, Mt. Jianfengling, 500 m, in mixed forests, Y. L. Zhang 337 (PE).

Distribution: China (Hainan, S Guangxi).

17 **Clematis andersonii** (Clarke ex Kuntze) H. Eichler in Bibl. Bot. 124: 47. 1958; Gupta in Bull. Nat. Bot. Gard. Lucknow 97: pl. 49. 1964; Kapoor, l. c. 124: 19. 1966; Rau in Sharma *et al*. Fl. Ind. 1: 57.1993; M. Johnson, Klematis 512. 1997.——*C. smilacifolia* Wall. ssp. *andersonii* Clarke ex Kuntze in Verh. Bot. Verb. Brand. 26: 212. 1885. TYPE: Sikkim. Darjeeling, 1869-11-01, Clarke 10349 (lectotype, BM!; isolectotype, K! L!).

Distribution: India (West Bengal); Sikkim.

18 **Clematis munroiana** Wight, Ill. Ind. Bot. 1: 5, t. 1. 1840; Gamble, Fl. Presid. Madras 1: 3. 1915; Mukerjee in Bull. Bot. Surv. Ind. 1(1): 139. 1959; Gupta in Bull. Nat. Bot. Gard. Lucknow 80: pl.40. 1963; Kapoor, l. c. 124: 53. 1966; Rau in Sharma *et al*. Fl. Ind. 1: 71. 1993; M. Johnson, Klematis 519. 1997. ——*C. smilacifolia* ssp. *munroiana* (Wight) Kuntze in Verh. Bot. Verb. Brand. 26: 120. 1885. TYPE: India. Pulney Mountains, 1836-09, Wight n. s. (lectotype, K!).

India. Madras: Lawson s. n. (K); Concan, Stocks s. n. (K); Neilcoonel, Gibson s. n. (K); Bastar State, Kanger, Mooney 870 (K); Hassan District, Mysore, Saldanha 15833 (K); Palni Hills, Matthew 50546 (K).

Distribution: S India.

19 勐腊铁线莲

Clematis menglaensis M. C. Chang in Fl. Reip. Pop. Sin, 28: 235, 360, pl. 79. 1980; C. Y. Wu, Ind. Fl. Yunnan. 1: 111. 1984; M. Johnson, Klematis 518. 1997. TYPE: China. Yunnan, Mengla, 1936-11, C. W. Wang 80746 (holotype, KUN, not. seen; isotypes, GH! PE!), 80841 (paratypes, GH! KUN! PE!); Pingbian, 1954-10-15, K. M. Feng 5046 (paratype, not seen).

Thailand. Doi Kuhn Dahn National Park, Maxwell 93-1392 (GH); Doi Phu-kha, khit 182 (S).

Distribution: China (S Yunnan), N. Thailand.

20 **Clematis hedysarifolia** DC. Syst. 1: 148. 1818; Prodr. 1: 6. 1824; Hook. f. & Thoms. Fl. Ind. 7. 1855; et in Hook. f. Fl. Brit. Ind. 1: 4. 1872; Kuntze in Verh. Bot. Verb. Brand. 26: 150. 1885; Finet & Gagnep. in Bull. Soc. Bot. France 50: 527. 1903; Mukerjee in Bull. Bot. Surv. Ind. 1: 139. 1959; Gupta in Bull. Nat. Bot. Gard. Lucknow 54: pl. 12. 1961; Kapoor, l. c. 78: 37. 1962; Rau in Sharma *et al*. Fl. Ind. 1: 66. 1993; M. Johnson,

Klematis 638. 1997. TYPE: India. circa Daogown, A. H. Hore s. n. (holotype, not seen).

C. naravelioides Kuntze l. c. 119. TYPE: India. syntypes collected from Concan, Belgaum, and Khasia, not seen.

India. Bombay: Talbot 3167, Dalzell s. n. (K); North Konkan, Karjet, Fernandes 20 (GH, K).

Distribution: S India.

De candolle (1818) and Hooker & Thomson (1855) all put *C. hedysarifolia* in Sect. *Flammula* DC. Following these authors, Johnson (1997) put it in sect. *Flammula* subsect. *Meyenianae* (Tamura) M. Johnson. In *C. meyeniana* Walp. and its allies, the anthers are linear in outline, at apex with inconspicuous small connective projections about 0.1 mm long. In *C. hedysarifolia*, the anthers are narrowly oblong in outline, at apex with conspicuous connective projections 1 ~ 1.5 mm long. According to the anther morphology, *C. hedysarifolia* should be a member of sect. *Naraveliopsis*, and in this section it seems to be related to *C. bourdillonii* Dunn.

21 **Clematis bourdillonii** Dunn in Kew Bull. 1914: 181. 1914; Gamble, Fl. Presid. Madras 1: 3. 1915; Gupta in Bull. Nat. Bot. Gard. Lucknow 80: pl. 24. 1962; Kapoor, l. c. 124: 21. 1966; Rau in Sharma *et al*. Fl. Ind. 1: 59. 1993; M. Johnson, Klematis 513. 1997. TYPE: India. Travancore, Merchiston Estate, 1895-04-09, Bourdillon 554 (lectotype, K!), 860 (syntype, K, not seen).

Distribution: S India.

22 片马铁线莲

Clematis pianmaensis W. T. Wang in Acta Bot. Yuannan. 6(4): 381, fig. 5: 1 ~ 4. 1984; M. Johnson, Klematis 522. 1997. TYPE: China. Yunnan, Pianma, 2200 m, 1980-09-20, West-Yunnan Exped. 11094 (holotype, YUNU! phototype, PE!).

Distribution: China (W Yunnan).

23 国楣铁线莲

Clematis fengii W. T. Wang, sp. nov. Fig. 3: 4 ~ 7

Affinis *C. tashiroi* Maxim., quae ramis haud fistulosis glabris haud furfuraceis, foliis 3 ~ 5-foliolatis, sepalis 4 ~ 6 atropurpureis differt.

Liana lignosa. Rami fistulosi, vadose 10 ~ 18-canaliculati, ad nodos dense furfuracei, ceterum glabri. Folia pinnata, 7-foliolata; foliola papyracea, ovata, 4 ~ 6 cm longa, 2.2 ~ 4 cm lata, apice acuminata, basi rotundata, margine integra, utrinque glabra, nervis basalibus 5 supra inconspicuis subtus fere planis; petioli ca. 7 cm longi, glabri, basi laminis stipuliformibus ca. 8 mm longis subtus dense furfuraceis instructi. Cymae axillares laxe 3-florae; pedunculi 7.8 ~ 14 cm longi, glabri; bracteae caducae. Flos ca. 5 cm diametro; pedicellus robustus, 6 ~ 11 cm longus, glaber. Sepala 4, alba, patentia, oblongo-lanceolata, 2.7 ~ 3.2 cm longa, 6 ~ 9 mm lata, apice acutiuscula, intus glabra, extus dense fulvo-furfuraceo-velutina, margine albido-velutina. Stamina glabra, exteriora ca. 2 cm longa, filamentis linearibus ca. 1.8 cm longis 0.5 ~ 0.7 mm latis, antheris oblongis ca. 1.5 mm longis, connectivorum projecturis subulatis 0.5 ~ 0.7 mm longis, interiora 0.7 ~ 1.1 cm longa, filamentis 3.5～6.5 mm longis ca. 0.5 mm latis, antheris anguste oblongis ca. 2 mm longis, connectivorum projecturis subulatis 1 mm longis. Carpella numerosa, ovariis dense pubescentibus, stylis ca. 8 mm longis dense villosis.

China. Yunnan: Xichou, Fadou, 1500～1600 m, in mixed forest, fl. White, 1947-09-21, K. M. Feng 12016 (holotype, PE).

24 Clematis herrei H. Eichler in Bibl. Bot. 124: 48, t. 4. 1958; M. Johnson, Klematis 515. 1997. TYPE: Philippines. Negros Island, Los Cuernos, 1931-06, Herre 1134 (holotype, GH!).

Distribution: Philippines (Negros Island)

25 Clematis korthalsii H. Eichler in Bibl. Bot. 124: 47, t. 3. 1958; Backer & Bakh. Fl. Java 1: 144. 1963; M. Johnson, Klematis 516. 1997. TYPE: Indonesia. Java, 1896-11-06, Kooders 25929 β (holotype, L, not seen).

? *C. coriacea* Korth. in Neader 1, Kruidk. Arch. 1: 208. 1847, non DC. 1818.

C. coriacea Korth. ex de Vriese in Pl. Jungh. 72. 1851, non DC. 1818; Walp. Ann. 4: 5. 1857.——*C. smilacifolia* ssp. *normalis* var. *coriacea* (Korth.) Kuntze in Verh. Bot. Verb. Brand. 26: 121. 1885.——*C. smilacifolia* β *normalis* subvar. *coriacea* Kuntze ex Hall. in Ann. Jard. Bot. Buitenz. 14: 256, t. 18. 1897. TYPE: Indonesia. Java, Korthals s. n. (holotype, not seen).

C. smilacifolia Wall. var. *stipulata* Miq. Ann. Mus. Lugd.-Bat. 66. 1868. TYPE: Indonesia. Java, Junghuhn s. n. (holotype, not seen).

Indonesia. Java: Tjibodas-Tjibeureum, Mt. Gedeh 8298 (L).

Distribution: Indonesia (W Java).

26 长萼铁线莲

Clematis tashiroi Maxim. in Bull. Acad. Sci. St.-Petersb. 32: 477. 1888; Tamura in Acta Phytotax. Geobot. 15(1): 18. 1953; Liu & Hsieh in Fl. Taiwan 2: 492. 1976; M. Y. Fang in Fl. Reip. Pop. Sin. 28: 232, fig. 34. 1980; Tamura in Satake *et al*. Wild Flow. Japan 2: 74. 1982; W. T. Wang in Bull. Bot. Res. Harbin 7(2): 103. 1987; T. Y. Yang & T. C. Huang in Taiwania 40(3): 242, fig. 18. 1995; et in Fl. Taiwan, 2nd ed., 2: 539, pl. 254. 1996; M. Johnson, Klematis 525. 1997. TYPE: Japan. Archipelago Ya-yama, inter insulas Liu-kiu et Taiwan sito, 1886, Tashiro 40 (holotype, LE, not seen).

C. longisepala Hayata in J. Coll. Sci. Univ. Tokyo 25: 41. 1908; Ic. Pl. Formos. 1: 21. 1911. TYPE: China. Taiwan, Mt. Morrison, 1906-10, Kawakami & Mori 2018 (holotype, TI! isotype, K!).

C. tozanensis Hayata in J. Coll. Sci Univ. Tokyo 25: 42. 1908; Ic. Pl. Formos. 1: 22, pl. 3. 1911. TYPE: China. Taiwan, Mt. Morrison, Tozan, 1906-10, Nakahara. s. n. (holotype, TI!).

C. yingtzulinia S. S. Ying in Quart. J. Chin. For. 20(4): 127, pl. 2. 1987; M. Johnson, Klematis 526. 1997. TYPE: China. Taiwan, Pinglin, Yingtzulin, 1987-09, S. S. Ying s. n. (holotype, NTUF, not seen).

Vietnam. Tonkin: Mt. San-ta-van, Petelot 6425 (P).

China. **Taiwan**: South cape, Henry 1320 (K); Taidong, Keng & Kao 2662 (GH); Arisan, E. H. Wilson 10797 (K).

Japan. Pref. Okinawa, Yaeyama Islands, Furuse 1040, 4156, 4378, 4562 (K); Okinawa Is., Tawad 2247 (US).

Distribution: N Vietnam; China (Taiwan); Japan (Ryukyu Islands).

27 **Clematis papillosa** H. Eichler in Bibl. Bot. 124: 50, t. 4. 1958; M. Johnson, Klematis 520. 1997. TYPE: Indonesia. Sumatra: Asaham, near Huta Bagasan, 1934-09 ~ 1935-02, Boeea 7157 (holotype, SING, not seen; isotypes, GH! S!).

Distribution: Indonesia (E Sumatra); Malaysia (Malay Peninsula: Tupai near Taiping).

Subsect. 2. **Liboenses** W. T. Wang in Acta Phytotax. Sin. 36(2): 164. 1998. TYPE: *C. liboensis* Z. R. Xu.

Flos bisexualis. Stamina exteriora sterilia in staminodia anguste linearia antheris carentia transientia, interiora fertilia.

Ser. 1. **Loureirianae** W. T. Wang, ser. nov. TYPE: *C. loureiriana* DC. Stamina glabra.

28 丝铁线莲

Clematis loureiriana DC. Syst. 1: 144. 1818; Prodr. 1: 5. 1824; Merr. in Trans. Am. Philo. Soc. Philad. n. Ser., 24(2): 7. 1935, p. p.; H. Eichler in Bibl. Bot. 124: 47. 1958; Gupta in Bull. Nat. Bot. Gard. Lucknow 80: pl.33. 1963; Kapoor, l. c. 124: 69. 1966; Ho, Ill. Fl. Vietnam 1: 394, fig. 1104. 1991; M. Johnson, Klematis 517. 1997. TYPE: Vietnam. Loureiro s. n. (holotype, not seen).

C. filamentosa Dunn in J. Bot. 47: 197. 1909; Hand.-Mazz. in Acta Hort. Gotob. 13: 214. 1939; M. Y. Fang in Fl. Reip. Pop. Sin. 28: 233, pl. 78, fig. 1 ~ 6. 1980; W. T. Wang in Fl. Guangxi 1: 291. 1991. TYPE: China. Hongkong, New Territories, Ha Hang, 1904-01-01, Dunn (Hongk. Herb.) 1099 (holotype, K!).

C. dioica auct. non L.: Lour. Fl. Cochinch. 344. 1790.

China. **Guangdong**: Xinyi, C. Wang 37771 (PE, IBSC); Mt. Lofushan, L. Teng 338 (IBSC); Luochang, N. K. Chun 42174 (PE, IBSC); Ruyuan, B. Y. Chen 8(IBSC). **Guangxi**: Longzhou, Morse 206 (K); Mingjiang, N. Y. Lliang 69198 (PE); Baise, Baise Exped. 55-1802 (PE).

Vietnam. Tonkin: Binh-long, Coloni 2193 (P); Tien-yen, W. T. Tsang 27397 (K, P); Hoa Binh, Petelot 6717 (P); Chan-moi, Balansa 1514 (K); Hac Kan, Eberhardt 4704 (GH); Mt. Vo-ka, Bon 4082 (P). Annam: Balong, Poilane 1146 (K, P).

Distribution: China (Hongkong, Guangdong, Hainan, Guangxi); Vietnam (Tonkin, Annam).

Ser. 2. **Liboenses** W. T. Wang, ser. nov. TYPE: *C. liboensis* Z. R. Xu.

Stamina pubescentia.

29 荔波铁线莲

Clematis liboensis Z. R. Xu in Acta Phytotax. Sin. 26(2): 150, fig. 1. 1988; M. Johnson, Klematis 516. 1997; R. J. Wang in J. Trop. Subtrop. Bot. 7(1): 27. 1999. TYPE: China. Guizhou, Libo, Yongkang, 800 m, 1984-04-18, Z. R. Xu 1519 (holotype, SYS!; isotype, IBSC!).

Distribution: China (SE Guizhou).

Subsect. 3. **Macgregorianae** W. T. Wang, subsect. nov. TYPE: *C. macgregorii* Merr.

Flos unisexualis; is staminatus staminibus omnibus fertilibus glabris instructus; is pistillatus staminodiis aliquot anguste linearibus glabris instructus.

30 Clematis antonii (Elmer) H. Eichler in Bibl. Bot. 124: 51, t. 4. 1958; M. Johnson, Klematis 512. 1997.——*Naravelia antonii* Elmer in Leaflets Philip. Bot. 8: 2800. 1915. TYPE: Philippines. Mindanao Island, Mt. Urdaneta, 1912-09, Elmer 13734 (holotype, PNH, not seen; isotypes, BM! K!).

Naravelia philippinensis Merr. in Philip. J. Sci. 11: 7. 1916. TYPE: Philippines. Luzon, Mt. Begacaua, 1915-08-21, Ramos Bs-23459 (holotype, PNH, not seen; isotypes, BM! K! US!).

Distribution: Philippines (NE Mindanao, SE Luzon).

31 Clematis macgregorii Merr. in Philip. J. Sci. 5: 347. 1910; Enum. Philip. 2: 142. 1923; H. Eichler in Bibl. Bot. 124: 50. 1958; M. Johnson, Klematis 518. 1997. TYPE: Philippines. Luzon, 2100 m 1909-07-04, McGregor BS 9929 (holotype, PNH, not seen); Mt. Pulog, McGregor 4347, 8372 (paratypes, not seen).

Philippines. Luzon, Mt. Data, Ramos & Edano BS 40291 (♂, K); Mt. Pulog, Ramos & Edano BS 45109 (fr., K), Jacobs 7035 (fr., K).

Distribution: Philippines (N Luzon).

Sect. 5. **Meclatis** (Spach) Tamura.

Subsect. **Wightianae** (Prantl) W. T. Wang in Acta Phytotax. Sin. 38(4): 321. 2000.——Sect. *Flammula* DC. 13 *Wightianae* Prantl in Bot. Jahrb. 9: 261. 1888. TYPE: *C. wightiana* Wight & Arn.

Ser. 1. **Wightianae** W. T. Wang, ser. nov. TYPE: *C. wightiana* Wight & Arn.

Folia pinnata vel bipinnata, foliolis petiolulatis ovatis oblongis vel anguste oblongis 2 ~ 3-lobatis vel indivisis dentatis vel integris.

32 Clematis actinostemmatifolia W. T. Wang, sp. nov. Fig. 3: 1 ~ 3

C. orientalis L. ssp. *simensis* auct. non (Fresen.) Kuntze: Viguier & Perrier in Mém. Inst. Sci. Madag. ser. B, 2(2): 223. 1949, p. p. quoad pl. Comoros.

Affinis *C. mauritianae* Lam., quae foliis ternatis, petiolis brevioribus 0.8 ~ 5 cm longis vulgo haud cirrhiformibus, sepalis extus puberulis differt.

Liana lignosa. Rami teretes, vadose 8-canaliculati, subglabri. Folia simplicia; laminae chartaceae, ovatae, 7 ~ 9.5 cm longae, 5.5 ~ 7 cm latae, apice acutae vel attenuatae, basi cordatae,

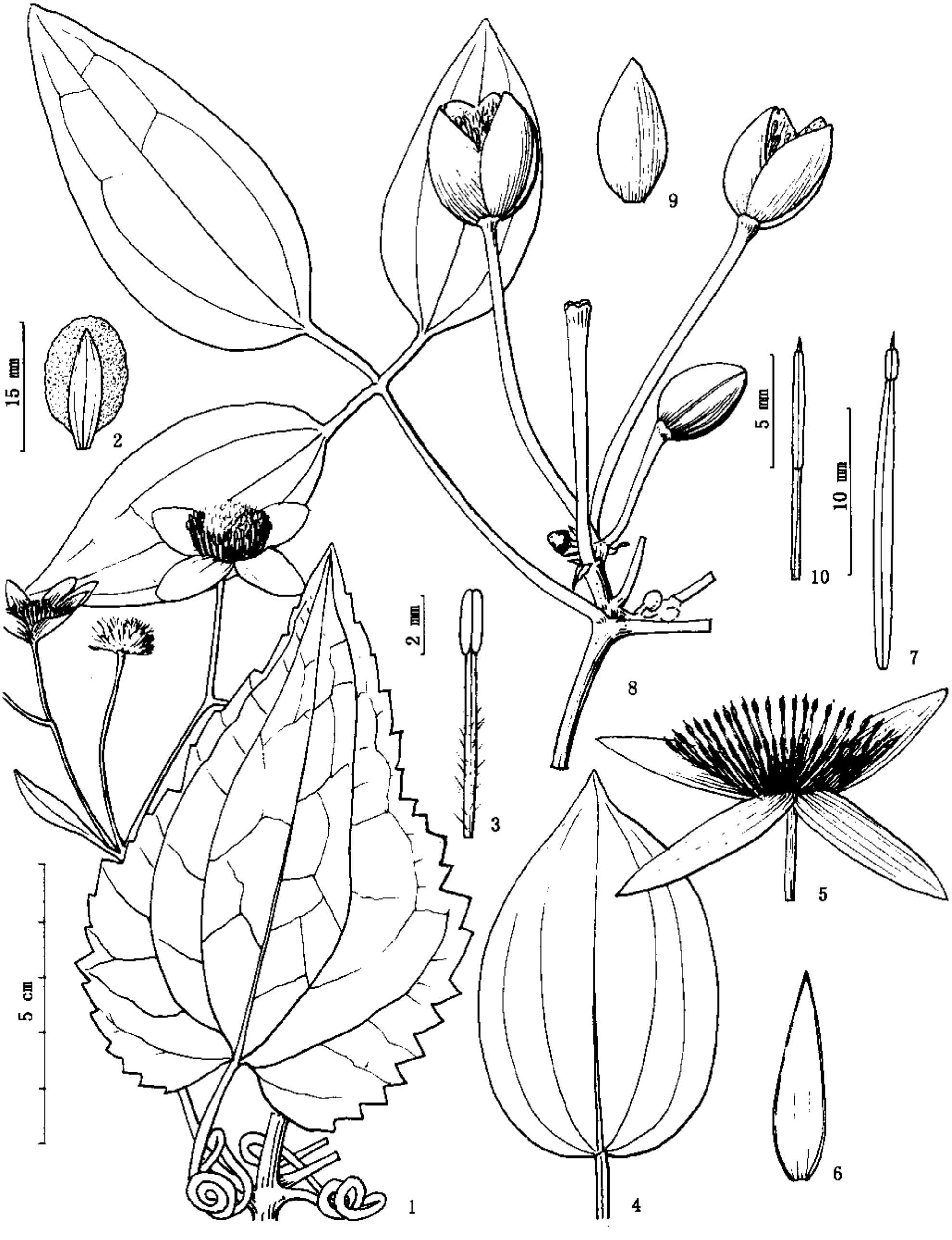

Fig. 3 1～3. *Clematis actinostemmatifolia* 1. Leaf and its axillary inflorescence; 2. Sepal outside; 3. Stamen (from Boivin s. n.). 4～7. *C. fengii* 4. Leaflet; 5. Flower; 6. Sepal outside; 7. Stamen. (from K. M. Feng 12016). 8～10. *C. pubipes* 8. Leaf and its axillary inflorescence; 9. Sepal; 10. Stamen (from S. G. Li 4934)

subcordatae, vel rotundatae, margine supra basin regulariter retundato-dentatae vel dentatae, dentibus apice mucronatis, 3-lobulatae, utrinque ad costam mediam tantum sparse puberulae, subtus

conspicue reticalatae, nervis basalibus subtus prominentibus; petioli 7 ~ 8.5 cm longi, saepe cirrhiformes, subglabri. Cymae axillares, (3 ~)5 ~ 7-florae; pedunculi 4 ~ 8 cm longi, glabri; bracteae petiolatae, anguste ovatae vel lanceolatae, 1.6 ~ 3 cm longae, glabrae. Flos 2 ~ 3 cm diametro; pedicellus 4 ~ 8 cm longus, glaber. Sepala 4, patentia, obovato-elliptica vel late elliptica, 12 ~ 17 mm longa, 8 ~ 11 mm lata, apice rotundata, intus adpresse puberula, extus glabra, margine late velutina. Stamina 7 ~ 10 mm longa; filamenta anguste linearia, pubescentia; antherae anguste oblongae, 1.8 ~ 2 mm longae, glabrae, apice obtusae. Ovaria dense puberula; styli 6 ~ 8 mm longi, dense villosi.

Comoros. 1850-05, Boivin s. n. (holotype, P).

33 **Clematis commutata** Kuntze var. **glabrisepala** W. T. Wang, var. nov.

A var. *commutata* differt pedicellis glabris vel subglabris, sepalis extus subglabris.

South Africa. Eastern Province, Cummings 218 (holotype, US); near Port Elizabeth, alt. 30 m, 1897-07, West 1801 (GH).

This variety differs from var. *commutata* in its glabrous or subglabrous pedicels and the outside glabrous sepals. In var. *commutata*, the pedicels are densely puberulous, and the sepals are outside densely tawny-puberulous.

Ser. 2. **Dissectae** W. T. Wang, ser. nov. TYPE: *C. dissecta* Baker. Fig. 4: 8 ~ 10

Folia ter quaterve pinnatisecta, lobulis ultimis haud stipitatis laxis linearibus anguste linearibus anguste triangularibus vel anguste rhombicis.

34 **Clematis dissecta** Baker in J. Linn. Soc. Bot. 20:87. 1882; Raynal in Adansonia 18(1): 7. 1978. TYPE: Central Madagascar. Baron 2037 (holotype, K!; isotype, P!).

C. pimpinellifolia Hook. fa. *normalis* Perr. in Humb. Fl. Madag. & Comor. 76^e Ranunculac. 24, fig. 9: 1 ~ 2. 1950.

C. pimpinellifolia auct. non Hook.: Viguier & Perr. In Mém. Inst. Sci. Madag. Ser. B, 2 (2): 232. 1949, p. p. quoad syn. *C. dissecta* Baker; Perr. in l. c., p. p. quoad syn. *C. dissecta* Baker.

Madagascar. Ranomafana, Malcomber *et al*. 1390 (UPS).

In the protologae of *C. dissecta*, Baker pointed out that his new species is allied to *C. pimpinellifolia* Hook. (sect. *Pseudanemone*) occurring in Madagascar too and having also similar 3 to 4 times pinnatisect leaves. In the account of the Mascarene species of the genus *Clematis*, Viguier and Perrier (1949) even lapsed *C. dissecta* Baker to the synonymy of *C. pimpinellifolia* Hook. However, in *C. dissecta*, the aestivation of sepals is valvate, while in *C. pimpinellifolia*, the aestivation of sepals is imbricate (Raynal, 1978, l. c.). So, the strong similarity of leaves of these two species must result from convergence. *C. dissecta* with valvate spreading sepals and pubescent filaments should be a member of the sect. *Meclatis* subsect. *Wightianae* (Wang, 2000). In subsect. *Wightianae*, it is unique in having highly divided leaves and occupies an advanced position. In other species of that subsection, the leaves are once or twice pinnate, and the leaflets are ovate (*C. simensis* Fresen., *C. hirsuta* Perr. & Guill.), oblong or narrowly oblong (*C. welwitschii*

Hiern. ex Kuntze, *C. thalictrifolia* Engler) in outline, 2 ~ 3-lobed or undivided.

Sect. 6. **Pseudanemone** Prantl (*Clematopsis* Bojor ex Hutch.).

The *Clematis villosa* DC. group with imbricate sepals was treated by Prantl (1888) as the primitive group of the genus *Clematis*, namely sect. *Pseudanemone* Prantl. Hutchinson (1920) treated it as a genus, *Clematopsis*, and considered that the genus *Clematis* s. str. originated from the genus *Anemone* through *Clematopsis*, considering it a primitive group too. However, in this group, except the primitive sepal aestivation, there are some important advanced characters, e. g. its sepals are often acuminate, long acuminate, or attenuate at apex, inside ofter densely pubescent or even velutinous, usually papery or thickly papery, sometimes even subcoriaceous [*C. katangensis* (Hutch.) M. Johnson] in texture, the filaments are hairy, and the anthers are often elongate, linear or narrowly linear in outline. In the genus *Clematis*, the primitive floral type is represented by the flower of the *C. montana* group (Wang 2000, and see above discussion under *C. potaninii*). After comparing the floral structure of *C. villosa* group. with that of *C. montana* group, I believe that the *C. villosa* group is not a primitive group within *Clematis*.

Twenty years ago, in sect. *Aspidanthera* (Godley, 1977) and sect. *Cheiropsis* (Tobe, 1980) were discovered some species also with imbricate sepals, and Tamura (1995, 1987), Johnson (1997) and some other authors all treated the *C. villosa* group as a section of the genus *Clematis*. In the present paper I follow them.

35 Clematis trifida Hook. Ic. Pl. 1: t. 79. 1837; Viguier & Perr. in Mém. Inst. Sci. Madag. Ser. B, 2(2): 228. 1949; Perr. in Humb. Fl. Madag. & Comor, 76^e Ranunculac. 18. 1950, p. p.——*C. villosa* DC. ssp. *trifida* (Hook.) Kuntze in Verh. Bot. Verb. Brand. 26: 173. 1885.——*Clematopsis trifida* (Hook.) Hutch. in Kew Bull. 1920: 20, pl. 1, fig. 2. 1920. TYPE: Madagascar. Lyall s. n. (holotype, K!).

Clematis bojori auct. non Hook.: Raynal in Adansania 18(1): 12. 1978; M. Johnson, Klematis 146. 1997, p. p. quoad syn. *C. trifida* Hook.

35a Var. **trifida**

Madagascar. Ambositra: Forsyth Major 714 (K, US), Boiteas 333 (P); Andrangoloaka, Hildebrandt 3687 (K).

Distribution: Madagascar.

Raynal (1978) and Johnson (1997) reduced *C. trifida* Hook. to the synonymy of *C. bojori* Hook. However, *C. trifida* with 3-sect, 3-lobed or undivided simple leaves is obviously different from *C. bojori* with ternate or nearly 5-foliolately pinnate leaves (Fig. 4: 7), and should be recognized as an independent species.

35b Var. **lanceolata** W. T. Wang, var. nov.

A var. *trifida* differt sepalis angustioribus late lanceolatis apice longe acuminatis vel attenuatis intus pilosis.

Central Madagascar: without precise locality, 1817, Baron s. n. (holotype, K).

This variety differs from var. *trifida* in its sepals being narrower, broadly lanceolate in outline, at apex long acuminate or attenuate, never emarginate, inside pilose. In var. *trifida*, the sepals are broadly ovate or ovate in outline, at apex acute, often emarginate, and inside glabrous.

36 Clematis macrophylla (Raynal) W. T. Wang, st. nov. Fig. 4: 1 ~ 3

Clematopsis bojori (Hook.) Raynal var. *macrophylla* Raynal in Adansonia 18(1): 10, pl. 1, fig. 3. 1978.——*Clematis bojeri* Hook. var. *macrophylla* (Raynal) M. Johnson, Klematis 147. 1997. TYPE: Madagascar. Mt. Andringitra 1800 ~ 2000 m, 1922-02, Perrier 14349B (holotype, P!)

C. mauritiana Lamk. fa. *Clematopsis* Perr. in Humb. Fl. Madag. & Comor. 76^e Ranunculac. 16. 1950, p. p.

Affinis *C. bojeri* Hook., quae foliis terminalibus minoribus usque ad 3 cm longis 3.5 cm latis 3-sectis (lobis terminalibus interdum petiolulatis) vel 3-partitis margine denticulatis supra densiuscule adpresseque pubescentibus, sepalis anguste ovatis minoribus 2 ~ 2.5 cm longis differt.

Suffrutex parvus. Caulis ca. 50 cm altus. Folia ternata, breviter petiolata; foliola chartacea, terminalia late ovata vel elliptico-ovata, 4.5 ~ 7.5 cm longa, 4 ~ 5.8 cm lata, apice acuta, basi late cuneata vel rotundata, margine grosse dentata, 3-lobata, supra sparse pilosa vel subglabra, subtus ad nervos pubescentia vel pilosa, nervis basalibus subtus prominentibus, ea lateralia minora paulo obliqua, rhombico-ovata vel ovata, 4 ~ 6 cm longa, 2.5 ~ 4 cm lata, petiolulis 0.6 ~ 1.6 cm longis; petioli 1.2 ~ 1.8 cm longi. Cymae terminales, 1 ~ 3-florae; bracteae petiolatae, late ovatae vel ovatae, 2.5 ~ 3 cm longae, margine dentatae vel integrae. Flos 5 ~ 6 cm diametro; pedicellus 2 ~ 9 cm longus, dense fulvo-pubescens. Sepala 4(~ 5), late ovata vel late elliptica, 2.5 ~ 3 cm longa, 1.4 ~ 2 cm lata, apice breviter caudata vel breviter acuminata, intus sparse, extus dense adpresseque pubescentia. Stamina 10 ~ 12 mm longa, filamentis linearibus pubescentibus, antheris anguste oblongis vel linearibus 2.8 ~ 3.8 mm longis glabris apice obtusis. Ovaria dense pubescentia; styli ca. 12 mm longi, dense villosi.

Distribution: Madagascar.

37 Clematis pimpinellifolia Hook. Ic. Pl. 1(2): t. 77. 1837; Viguier & Perr. in Mém. Inst. Sci. Madag. Ser. B, 2(2): 232. 1949, p. p. excl. syn.; Perr. in Humb. Fl. Madag. & Comor. 76^e Ranunculac. 24. 1950, p. p.——*C. villosa* DC. ssp. *pimpinellifolia* (Hook.) Kuntze in Verh. Bot. Verb. Brand. 26: 173. 1885, p. p. *Clematopsis pimpinellifolia* (Hook.) Hutch. in Kew Bull. 1920: 22. 1920.——*Clematis pimpinellifolia* fa. *Clematopsis* Perr. in l. c. fig. 10. 1950. TYPE: Madagascar. Lyall 108 (holotype, K!).

C. villosa ssp. *oligophylla* var. *hildebrandtii* Kuntze, l. c. TYPE: Madagascar. Betsilev, 1881-01, Hildbrandt 3877 (holotype, B?, not seen; isotypes, K! P!).

C. bojeri auct. non Hook.: Raynal in Adansonia 18(1): 12. 1978; M. Johnson, Klematis 145. 1997, p. p. quoad syn. *C. pimpinellifolia* Hook.

37a Var. **pimpinellifolia**

Madagascar. without precise locality, Baron 690, 2004 (K); Antsirabe, Perrier 4920, 4926 (P); Ankarabra, Decary 17582 (P); Mnkaratre, Capuron 46 (P).

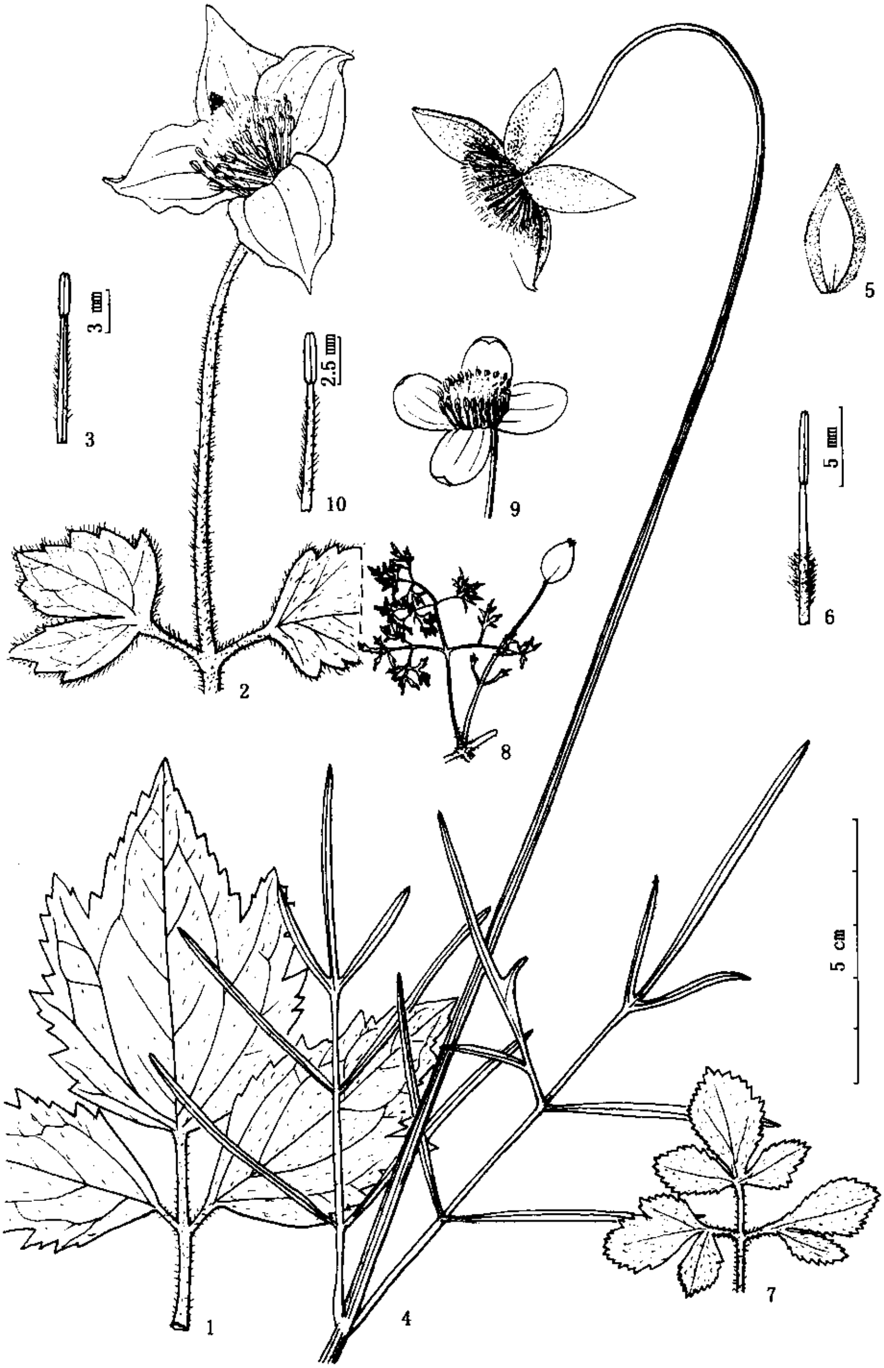

Fig. 4 1 ~ 3. *Clematis macrophylla* (from Perrier 143498) 1. Leaf; 2. Flower; 3. Stamen. 4 ~ 6. *C. weariloba* 4. Upper part of the plant; 5. Sepal outside; 6. Stamen (from Stolz 2385). 7. *C. bojeri* leaf. (from Fox s. n.). 8 ~ 10. *C. dissecta* 8. Leaf and its axillary inflorescence; 9. Flower; 10. Stamen. (from Baron 2037)

Distribution: Madagascar.

Besides *C. trifida* Hook., Raynal (1978) and Johnson (1997) also reduced *C. pimpinellifolia* Hook. into the synonymy of *C. bojeri* Hook. In fact, the leaves of *C. pimpinellifolia*, being 3 ~ 4 times pinnatisect, are obviously different from those of *C. bojeri*, in which the leaves are ternate or nearly 5-foliolately pinnate and the leaflets are only once divided or undivided. So, the two species are closely related to each other, but definitely distinct.

37b Var. **pseudoscabiosifolia** (Perr.) W. T. Wang, st. nov.——*C. pseudoscabiosifolia* Perr. in Not. Syst. 14: 309. 1953.——*Clematopsis bojeri* (Hook.) Raynal var. *pseudoscabiosifolia* (Perr.) Raynal in Adansonia 18(1): 10, pl. 1, fig. 5. 1978.——*Clematis bojeri* Hook. var. *pseudscabiosifolia* (Perr.) M. Johnson, Klematis 146. 1997. TYPE: Madagascar. Ambatofangena, 1911-10, Perrier 4915 (holotype, P!); without precise locality, 1887, Baron s. n. (paratype, P!).

C. scabiosifolia auct. non DC.: Viguier & Perr. in Mém. Inst. Sci. Madag. ser. B, 2(2): 229. 1949; Perr. in Humb. Fl. Madag. & Comor. 76e Ranunculac. 20, fig. 6. 1950.

Madagascar. Ambatofinandrahana, Decary 12941, 17394 (P), Humbert & Capuron 28045 (K, P).

Var. *pseudoscabiosifolia* with leaves very similar to those of var. *pimpinellifolia* in division pattern differs from this typical variety in its leaf blade being abaxially silvery-sericeous-velutinous (i. e. the indumentum entirely covering the abaxial leaf surface), and in its sepals being ovate in outline, at apex long acuminate. While in var. *pimpinellifolia*, the leaf blade is abaxially only on veins pubescent, and the sepals are broadly ovate in outline, at apex acute.

38 Clematis oligophylla Hook. Ic. Pl. 1: t. 80. 1837.——*C. villosa* DC. ssp. *oligophylla* (Hook.) Kuntze in Verh. Bot. Verb. Brand. 26: 173. 1885.——*Clematopsis oligophylla* (Hook.) Hutch. in Kew Bull. 1920: 22, pl. 1, fig. 3. 1920.——*Clematopsis bojeri* (Hook.). Raynal var. *oligophylla* (Hook.) Raynal in Adansonia 18(1): 42, pl. 1, fig. 7. 1978.——*Clematis bojeri* Hook. var. *oligophylla* (Hook.) M. Johnson, Klematis 147. 1997. TYPE: Madagascar: Emirina, Bojer s. n. (holotype, K, not seen; isotype, P!).

C. villosa ssp. *backeri* Kuntze l. c. TYPE: Madagascar. E Emirina, Andnangvlvaka, Mar. 1880, Hildebrandt 3687 (holotype?, P!).

Clematis trifida Hook. fa. *Clematopsis* Perr. in Humb. Fl. Madag. & Comor. 76e Ranunculac. 18. 1950.

C. pimpinellifolia fa. *Clematopsis* Perr. in l. c. 24, fig. 9: 4 ~ 7.

C. pimpinellifolia auct. non Hook.: Viguier & Perr. in Mém. Inst. Sci. Madag. ser. B, 2 (2): 232. 1949, p. p. quoad syn. *C. oligophylla* Hook.; Perr. in l. c. 24. 1950, p. p. quoad syn. *C. oligophylla* Hook.

Madagascar. without precise locality, Baron 1766, 1817 (K); Ankaratra Mts., Kitching s. n. (K), Perrier 13424 (P); Kitsamby, Viguier & Humbert 1682 (K, P); Tenonrivo, Catat 1684 (P); Vavavato, Decary 13847 (P).

Distribution: Madagascar.

After its publication *C. oligophylla* Hook. was only recognized at specific rank by Hutchinson under the *Clematopsis*, and treated by some other authors as infraspecific taxa under *C. villosa* DC., *C. trifida* Hook., *C. pimpinellifolia* Hook., or *C. bojeri* Hook. respectively, and even reduced to the synonymy of *C. pimpinellifolia* Hook. (see literature cited above) *C. oligophylla* with 2~4-times pinnatisect leaves is really similar and closely related to *C. pimpinellifolia*. It differs from the latter species in its stems being lower, ca. 50 cm tall, usually not branched, with only 2~3 remote pairs of leaves, and in its solitary, terminal flowers, and ovate, inside glabrous sepals. In *C. pimpinellifolia*, the stems are robust, taller, and many-branched, with rather densely arranged leaves, the flowers are in terminal 1~3-flowered cymes, and the sepals are broadly ovate in outline, inside appressed-puberulous.

39 Clematisleariloba (Hutch. & Summ.) W. T. Wang, comb. nov. Fig. 4: 4~6

——*Clematopsis leariloba* Hutch. & Summ. in Kew Bull. 1925: 361. 1925.——*Clematopsis oliveri* Hutch. f. *leariloba* (Hutch. & Summ.) Staner & Leonard in Bull. Soc. R. Bot. Belg. 87: 42. 1950. TYPE: Tanzania. Kyimbila District, Usafwa, 1913-12, Stolz 2385 (holotype, K!; isotype, P!).

C. oliveri (Hutch.) M. Johnson, Klematis 149. 1997, p. p. quoad syn. *Clematopsis leariloba* Hutch.

Distribution: Tanzania. Only known from the type specimens.

Clematopsis leariloba Hutch. & Summ. was treated by Staner and Leonard as a form of *Clematopsis oliveri* Hutch. or reduced to the synonymy of *Clematis oliveri* (Hutch.) M. Johnson by Johnson (see literature cited above). However, the leaves of this species are 1~2 times strongly pinnatisect, with sessile, spreading, linear or narrowly linear, entire ultimate lobes, and as the similar leaves of *Clematis anethifolia* and *C. dissecta* Baker represent the most advanced leaf division type in the genus *Clematis*, and are obviously different from the leaves of *C. oliveri* (Hutch.) M. Johnson. In the latter species, the leaves are once pinnate, with shortly petiolulate, oblong-obovate, dentate leaflets.

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